

AMERICAN CINEMATOGRAPHER

FOR AMATEUR AND PROFESSIONAL PHOTOGRAPHERS

July, 1940

25c

Foreign 35c

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American Society of
Cinematographers

Surveying Studio Light
Levels
STULL

Exposure at 1-100,000
Second
BLAISDELL

Honors to Glennon
Stereophonics Sound
in Hollywood

Collegiates Produce
Picture
MAU AND DUKE

Real Ranch Picture
HERBERT
Scandinavia in 1939
STANFORD

Putting Scene Slate in
Camera
STULL

Fr. Meus Given
Honors
Making 16mm. dolly
HUNT

Special Effects and
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JULY 1940



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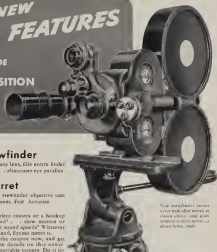
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The Front Cover

Director Anatole Litvak (seated, with feet on cobblestones) and Ernie Haller, A.S.C. (on plaid coat), watch Betty Davis and Charles Boyer enact a scene in Warner's "All This and Heaven Too" Still photo by Bert St.



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Surveying Major Studio Light Levels

By WILLIAM STULL, A.S.C.

FOR many years the illumination levels used in Hollywood's major studios have been the subject of much loose discussion. A great deal has been said about the subject, but remarkably little has been positively known about it.

While it might be generally considered that one studio or cinematographer might require a higher average level of illumination than another, positive data has been almost wholly lacking.

Such studies of the matter as may have been made appear to have been made privately, and often on a more or less limited scale. So far as the writer is aware, no widespread or authoritative survey of the subject has ever been made public.

Yet the facts obtainable in such a survey could be of considerable practical value to the industry and those connected with it. For this reason, the writer has essayed to

make a survey of this nature. In doing so he attempted to obtain the necessary facts from all of the major studio production units working on interior sets during the period involved, between May 18 and June 16, 1940.

Thirty-five actual readings were made in the eight major studios of Hollywood. Inevitably, some units could not be included in this survey being on location during this period. Nonetheless, the survey has been made as complete as was reasonably possible, and may be considered to furnish a truly representative cross section of Hollywood's lighting standards and methods.

Foot-Candle Used

Although a majority of today's directors of photography employ photoelectric light-measuring devices in their work, the instruments most commonly used—the Weston "Master" and General Electric exposure meters—while

excellent in themselves, were not designed to give scientifically accurate illumination readings in terms of foot-candles.

In addition, as is generally known, there is too great a variation between individual meters and types, and in individual methods of using them, to permit their use for such a survey.

Therefore the writer obtained a standard Weston foot-candle meter (Model 614), and made all the readings with this instrument. This meter is equipped with a triple-range scale, embracing a range of intensities from 0 to 100, 0 to 250, and 0 to 500 foot-candles, permitting very accurate readings under all conditions.

The instrument used was also fitted with the "Viscor" green filter, similar to that employed in the Technicolor photometers, which corrects the spectral response of the photoelectric cell to a very close approximation of that of the human eye, as defined by the international eye sensitivity curve (Figure 1).

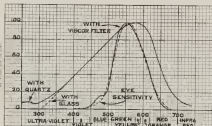
This was deemed advisable in view of the fact that both incandescent and arc lighting would be encountered; the "viscor" filter was used as no filter has been developed to correct photocell response to typical panchromatic sensitivity.

The meter readings were made by the writer using this meter, positioning its cell as nearly as possible in the exact plane of the subject's face, and reading incident light. The meter's cell was not fitted with any type of baffle or shield, and the device accordingly had a rather wide angle of acceptance; considerably more so than most of the exposure meters commonly used.

It may be pointed out, however, that the light read by this meter would in all cases fall on the subject, and should therefore be taken into consideration in any discussion of actual illumination levels.

Wide Range of Levels

The individual illumination readings thus obtained are shown in Table 1. As will be seen from this table, the data for the Twentieth Century-Fox Studio was not obtained by means of individual readings, as was the case in every other instance, but by reading a standard testing light source used by that studio's camera department in coordinating the General



Electric meters used by all camera crews on that lot.

Camera Supervisor Daniel B. Clark, A.S.C., has established a system by which all cinematographers standardize their keylight at an arbitrary value with their meters, which in turn are dialy checked with the standard light source. This value, as read by the meter used in the survey, was 150 foot-candles.

A brief study of the data in Table 1 will indicate that a really remarkable range of illumination levels are being used. The lowest recorded for a normal, day-effect scene was used by Benjamin Kline, A.S.C., who standardized on a 28 foot-candle keylight level; the highest recorded were 290 and 280 foot-candles.

One still higher reading was obtained, where a value of 260 foot-candles was found. This, however, has been ignored in computing the averages, etc., inasmuch as the cinematographers directing the photography of this scene were employing the old, slower DuPont Superior Type 1 negative film for the special purpose of utilizing its high green sensitivity.

This furnishes an interesting commentary on recent advances in film sensitivity, however, as comparable process shots utilizing the newer, faster emulsions were recorded as being made with rather less than half the light required by the older film.

High and Low Groups

Further study of the table will indicate that the studios may be divided into two groups, one including three plants where a relatively high average level of illumination is required, the other including the five plants in which lower light-levels are used.

The industry's overall average, as shown in Table 2 is 114.57 foot-candles. The average for the three high-level studios is 170.25 foot-candles, while that of the five low-level studios is 79.42 foot-candles.

It seems probable that the foregoing averages have all been raised to some extent by the rather large number of high-level exterior scenes (seven) being filmed on the stages as the survey was made. These scenes in themselves show an average of 172.85 foot-candles.

The average for night-effect scenes, as obtained from the five

TABLE 1—INDIVIDUAL ILLUMINATION READINGS

PARAMOUNT					
No.	Cinematographer	Keylight In Foot- candles	Stop	Film	Remarks
1	Ted Lashoff A.S.C.	76	12.4	Pos. X	Normal medium shot
2	Harry Zwick A.S.C.	200	12.7	Dufont II	Fire key, brilliant sun effect on stage, day
3	Theodore Sparkuhl A.S.C.	40	12.4	Dufont II	Frontal scene
4	Harold Lane A.S.C.	57	12.3	Pos. X	Two shot, manual
5	Leo Lyster A.S.C.	90	12.4	Pos. X	Daily shot, keylight level at 90, 90 at back, 90 low key
6	William Miller A.S.C.	30	12.4	Pos. X	Reaction, No meter used
7	Arthur Hunt A.S.C.	200	12.4	Dufont I	Day effect
8	Walter Kelly A.S.C.				Extreme dimmed for 10 second, 100 ft.
METRO-GOLDWYN-MAYER					
1	Charles Levine A.S.C.	145	12.3	Dufont II	Scene exterior, stage, 100 foot-candle level
2	Robert Black A.S.C.	280	12.7	Pos. X	No stage effect, two shot, manual
3	Ray Jan A.S.C.	140	12.4	Dufont II	Scene exterior, stage, 100 foot-candle level
4	Harold Brown A.S.C.	152	12.2	Pos. X	Two-shot, day effect for studio exterior, 7 foot, low key, but background glass
5	Ed Munn A.S.C.	165	12.3	Pos. X	Two-shot, stage, 100 foot-candle level
WARNER BROS.					
1	Ernest Haller A.S.C.	90	12.4	Pos. X	Daily shot, from medium shot to close-up, Another picture in low light
2	James Wang H. A.S.C.	44	12.4	Pos. X	Effect lighting, extreme low key
3	Clarence Clark A.S.C.	100	12.6	Pos. X	No meter used
4	E. William O'Connell A.S.C.	52	1.1	Pos. X	Scene shot, almost entirely above the level that man is said to see in projection
5	Arthur Edson A.S.C.	120	12.8	Pos. X	Two-shot, high key for broad range
6	Arthur Jack A.S.C.	28	12.8	Pos. X	Effect lighting in roofed scene on large stage exterior
7	Ed Nelson A.S.C.	15	12.4	Pos. X	Scene shot, night
8	Willard Van Dyke A.S.C.	44	1.2	Pos. X	Scene shot, night
COLUMBIA					
1	Joseph Walker A.S.C.	80	12.3	Pos. X	For key, large stage exterior
2	Leo Nock A.S.C.	70	12.7	Pos. X	For key, large stage exterior
3	Laurie Ralston A.S.C.	120	12.8	Pos. X	For key, large stage exterior
4	Benjamin Kline A.S.C.	28	12.3	Pos. X	For key, large stage exterior
5	Leo Nock A.S.C.	120	12.8	Pos. X	For key, large stage exterior
UNITED ARTISTS					
1	Harry Wax A.S.C.	60	12	Pos. X	Interior scene
2	Paul Leder A.S.C.	25	12.4	Pos. X	Interior scene
HOLLYWOOD					
1	Harry Koh A.S.C.	170	12.3	Pos. X	Large stage exterior, extreme
2	Frank Ebbens A.S.C.	280	12.7	Pos. X	Large stage exterior, extreme
3	Willard Van Dyke A.S.C.	90	12.3	Pos. X	Large stage exterior, extreme
FRANKLIN D. SWANSON CO.					
1	Stanley Livingston A.S.C.	170	12.3	Pos. X	Large stage exterior, extreme
CARTERS					
1	Robert Carter A.S.C.	180	12.3	Pos. X	Large stage exterior, extreme
2	Joseph Valentine A.S.C.	70	12.8	Super XX	Interior scene, night effect lighting

TABLE 2—STUDIO AVERAGES

Average (16 studios) (all)	154	57 foot-candles (42)
Average (16 studios) (low level)	57	41 foot-candles
Average (16 studios) (high level)	175	100 foot-candles
Average (Warner Bros. group) (all)	77	50 foot-candles
Average (Columbia Studio) (all)	49	25 foot-candles
Average (RKO Studio) (all)	154	50 foot-candles
Average (Universal Studio) (all)	59	40 foot-candles
Average (Twentieth Century Fox standard level)	145	100 foot-candles (42)

sets upon which such scenes were being made, was 54.6 foot-candles; the average for scenes of this type in the studios where lower light-levels are the rule appears to be 26 foot-candles.

Process Shots

The average value used in illuminating projected background process shots on modern film in five studios was 111.80 foot-candles. This, in turn, can be subdivided to show that two readings taken on such shots in the high-level studios average 230 foot-candles, while those in three low-level studios average 33 foot-candles. The latter figure, however, appears misleadingly low, since several of these were night effects.

It would appear that a further and more exhaustive study of this point, including not only foreground keylight levels, but also background screen illumination averages and print densities, could profitably be made.

Treated Lenses

A very considerable variety in lens stop practice is evident; the apertures used ranging from f3.5 to f2.2, with the average for the 33 sets involved working out at f2.6. It should be noted that in several instances, as in the lenses used by Warner Brothers', by Rudy Mate, A.S.C., at United Artists, and by Joseph Valentine, A.S.C., at Universal, f2 lenses are used instead of the customary f2.3 or f2.5 objectives.

As has already been noted, the standard practice at one studio involves stopping down to a standard aperture of f2.5.

In two instances cinematographers were found to be using lenses treated with the recently developed non-glare coating. In one instance, that of Theodore Sparkuhl, A.S.C., an illumination level of 46 foot-candles and an aperture of f2.3 was used.

In the other, L. William O'Connell, A.S.C., was filming comedy action in a rather high key, using a keylight level of 82 foot-candles

with his lens stopped down to f2.3. Compensating these readings for a uniform aperture of f2.3, it appears that the average light level thus used with treated lenses is 46.75 foot-candles, a value only a little over half that of the 79.42 foot-candle average of the low-level studio group in which these readings were taken.

Use of Meters

While in this survey the question of the individual use of photoelectric light meters was only indirectly considered, it was nonetheless observed that out of 34 directors of photography contacted 22 definitely employed meters, while only 5 never did so. The remaining seven appear to use meters occasionally—generally on exterior scenes or to provide a safety-guard check when making extreme effect-lightings.

In one studio, the cinematographers, as is well known, all use meters which are provided and maintained by the studio. Here a policy is followed of maintaining a standard keylight value (150 foot-candles at f2.5) for all scenes, regardless of type of action or key, by means of these meters.

The overall key and effect of the scene is controlled by modifying the lighting balance as the individual cinematographer may prefer.

Supervisor of Photography Clark reports this system is rigidly adhered to, and has done a great deal to provide more uniform printing densities in the studio's negative.

The same course is followed by Cinematographer Kline, who uses a standard keylight level of 58 foot-candles for all normal day interiors,

with a shutter-aperture of 150 degrees. In both these instances, all negative receives strict time-and-temperature processing.

Summary

From all of the foregoing, it will be seen that extremely great variations in lighting levels exist throughout the industry. Undoubtedly, each studio and cinematographer has its own conception of what constitutes an ideal negative for the purposes, and the means necessary to produce that negative.

However, the variations noted seem too great to be explained by mere variations in individual lighting technique. This undoubtedly is a factor; but it is not sufficiently great to explain such variations in lighting levels as shown in the individual studio averages. Other variables in the chain between set and screen must also play their parts.

When the present, high-speed film emulsions were introduced, it was noted that all of them were characterized by somewhat steeper gradation (or greater contrast) than the slower emulsions they supplanted in some instances this may be desirable, in others it may not.

There are several ways in which this may be overcome. Under normal studio conditions, the cinematographer must overcome it by modifying his lighting balance, to present to the film softer lighting contrasts, by using larger lens-openings, increased optical diffusion, etc. In other instances, modifications in development procedure may be employed.

At any rate, with the present obvious need for increased economies in every phase of production, it would appear that these great variations in light levels, and their causes, are taking on a new and practical importance.

Details which only a short time ago were of merely technical interest can now be regarded as having

(Continued on Page 146)

TABLE 3—AVERAGES FOR VARIOUS TYPES OF SCENES, ETC.

Average (16) high level studies	176.25 foot-candles (12 sets)
Average (16) low-level studies	79.42 foot-candles (25 sets)
Average (16) night effect studies	41.6 foot-candles
Average (Warner Bros.) (all)	77.5 foot-candles
Average (Columbia Studio) (all)	49.5 foot-candles
Average (RKO Studio) (all)	154 foot-candles (42 sets)
Average (Universal Studio) (all)	59 foot-candles (4 sets)
Average (Twentieth Century Fox standard level)	145 foot-candles (42 sets)

HERE'S A BIG ONE

New Moon

Jeannette MacDonald and Nelson Eddy score again in another N-G-M picture, "New Moon." It is a lovely, even robust, musical in the main. Some of the music was may must there have been other musicals that have been more tuneful, and maybe there have been. Nevertheless for number-one out of a hundred this is delightful entertainment, with singing and with action. And that latter factor is not to be ignored for its quality in lifting a show to a high spot.

The voices of the two chief singers are at their best. If ever the pipes of either of them have been in better fettle this reporter was not present. On the dramatic side of the cast are Mary Boland, H. B. Warner, George Zucco and Cecil Mitchell. The book and lyric are by Oscar Hammerstein 2d, Frank Mearl and Laurence Schwab. The music was by Sigmond Romberg and the musical direction by Herbert Stothart, with the screen play by Jacques Deval and Robert Archer.

The lines of the book are smart, with abundant snap and literary quality—a quality that makes it a pleasure to hear even as the settings and scenes are a pleasure to the eye.

William Demare, A.S.C., directed the photography. To appreciate or realize the quality of that phase of the picture it is necessary to follow through from her first appearance to her last the remarkable reproduction of the face and figure of Jeannette MacDonald.

All This and Heaven Too

Warner Brothers' "All This and Heaven Too" may rate as one of the ten best pictures in all time. That strong statement is made with a reasonably keen realization of its achievement, which extends back at least more than a quarter of a century with "Birth of a Nation." A little later there came Falke's "Les Misérables," with Henri Kraus as Jean Valjean, described by the great Dr. Brayton from his pulpit in Brooklyn on one occasion as "the greatest character in fiction."

Nervous is fickle. Inclination is strong in its favor of enlarging on the more or most recent example of genuine greatness, to avoid highest honors to the last great picture seen. The Rachel Field story, lacks none of the more usually assumed popular factors of box office entertainment. It has not, for example, in any character the capacity for revealing, shall we say, the mental unsuitableness possessed by Karle O'Hara as the philanthropic quackery displayed by the leasable Rhett Butler.

It is true a charge of unsuitableness is leveled against a husband—with its con-

By George Blaisdell

responding implication against a governess—but the audience knows it is the ravings of an irresponsible psychopathic case. The audience can bear witness the story is as clean as a house's tooth. It is that phase of it that irresistibly enhances the degree of the final tragedy.

Charles Boyer and Bette Davis are ideal in the leading parts of the script. Possibly it fails to even adult human who follows the interpretations of the various members of a cast to put upon those interpretations the ideas that pass through his own mind, that the scriptable be made as he would have them made.

It seems that in "All This and Heaven Too" Anatole Litvak has rediscovered the man out front. That individual sits actively by and absorbs the story that is being unfolded for him. In reality it is not a story. It is a happening. It is life. The drama is complete, even among a house the men and women in which are going through what to them is all in a day's work.

The picture runs about two hours and a half, but it does not seem long. There is a ten-minute intermission, though it is hardly necessary.

The cast of characters is remarkable for the rank of those who compare it. Jeffrey Lynn, the minister, makes a comparatively lesser part stand out, big Barbara O'Neil, as the Duchess de Praxin, is most convincing as the unfortunate and unhappy wife. Walter Hampden, great Shakespearean, has but a bit of a part, but by means of his strict face commands instant attention from those in the house.

Heles Westley, Henry Daniell, Harry Davenport, George Cusumano, Montagu Love, Janet Beecher, Fritz Leber and Jan Keith are among the well known names in the cast. The parts of the four children are taken by Jane Lockhart, Virginia Weidler, Ann Todd and little Richard Nichols.

Evans Haller, A.S.C., is responsible for the photography. Special efforts were photographed by Byron Haskin, A.S.C., and Rex Wimpas, A.S.C. It can be of interest to the many who like to make comparisons in a photographic way to be reminded of the fact it was but six months ago Haller finished camera work on "Gone with the Wind." That was in Technicolor, and on that picture Haller had two associates, Ray Rennahan, A.S.C., and Wilfred H. Chase, A.S.C.

To the photographically wise among the photoplay public, there is presented an excellent basis of comparison between black and white and Technicolor. The two pictures are made one following

the other. They were photographed in color by a combination of one normally black and white photographer and two associates who are veteran Technicolor employees, a combination equal to the best. They were photographed in black and white by a man who will be declared by his associates to be the equal of the best.

So now those who are interested in the subject may take advantage of an opportunity for a decision that may not again soon be so strongly presented. Of an examination of two productions made within the same six months, of two great productions, and photographed under the hand of the same man.

Leaving the press preview on the afternoon of the 13th at the Carlton. Circle an elderly woman remarked to her escort the while she vigorously plied her head-tied to eyes quite plainly red.

"Do you know I never have seen Charles Boyer look so attractive as he did today—not only his face, but his profile and his whole head, especially the black velvet quality of his eyes."

"My dear," quietly responded her escort, "I felt generally the same way about Bette Davis. I believe, though, if you ask Mr. Boyer he will tell you he is inclined to be the cinematographer the honor of crediting his superb photography for your unusually favorable impression."

Tom Brown's School Days

EKO Radio has produced something out of the ordinary in "Tom Brown's School Days." The story itself is far from the everyday motion picture story. It is no manner can it be marked up as a love story, for the girl stuff is not in it or of it. But it is a documentary—a great one of England, and for every place in the wide world in which English is spoken.

Nor does that word mean in any manner some absence of interest. There is an abundance of interest. That interest is created and maintained in watching how our man succeeds in capturing in the minds of three hundred or more boys the overpowering fact that God Almighty hates a liar. These words are not said, but they might have been.

Producers Towne and Baxter have both a gripping job. It is a story that dies in sight at the start and holds tightly to the end. Director Robert Stevenson, heretofore working in England, makes his first American picture. There can be no question of his sincerity or there could have been none in advance of the picture. Certainly there can be none after seeing the picture.

Ed Coddie Hardwick plays Dr. Arnold, headmaster of Rugby, plays the (Continued on Page 36)

Making Ranch Picture That Is Real

By CHARLES W. HERBERT
A.S.C.



HORACE GREELY became nationally quoted when he said, "Go West, young man; go West!" It's a long, long cry since then, but men, women and children are still heading West—not to an untamed wilderness but to a vast outdoor playground where the air and water are free and pure and the wilderness beckons along innumerable well-tried trails.

They will be going to the dude ranches of the great Rocky Mountain region in Montana and Wyoming. Just as birds harken to the rustle of spring and journey to their summer feeding grounds so does man seek a summer playground for extended or brief respite from school or the grind of business.

While there are many picture possibilities in the winter, summer is today's more continued variety of subjects for the camera. Travelogue cameramen follow the same route as the birds and vacation seekers. The dude ranch offers an unusual picture opportunity for amateurs and advanced amateur cinematists.

It's a "Natural"

I don't know of any subject that has more essentials for motion picture productions ready and waiting for either the professional or amateur to tackle and mould into a logical smooth running series of action scenes.

During the dude ranch season in Montana and Wyoming, the skies are blue, the air is clear and cool, the terrain is in foliage, flowers

abound, and there is a variety of activities—natural in summer or especially arranged for guests at the various ranches.

Celebrate Arrival

You can either make a reel of your own trip to a dude ranch in which your family or friends are featured or else make a story of life on a dude ranch in general. In either case it will be important to select definite characters to appear here and there throughout the reel in closeups to keep up the intimate story theme.

Universal's *Ging Places* reel No. 77 recently released shows Eastern dudes in routine activities on the Sixty-Three Ranch near Livingston, Mont.: a cattle roundup on the Lees K Bar Ranch near Big Timber, Mont., and dudes going by stagecoach and horseback to the world famous log cabin church in Jackson Hole, Wyoming.

The arrival of dudes on a dude ranch is an event to both the dudes and the dude ranchers. Some ranchers meet the dudes at the station with a stagecoach or on horseback, but the favorite carry-all is the station wagon. Always as dudes arrive at the ranch itself, the ranch family and dudes who are already there, all rigged out in leg hats, boots and loud shirts, turn out to give the new arrivals a wholesome Western welcome.

The introduction to the dude ranch seems to be the logical way in which to start your reel, but you can, of course, start it at your own home with travel folders,

time tables or any other sequence you decide to use.

After your introduction you can build up your reel with a series of sequences of whatever activities are available to you. Universal's Dude Ranch reel is an example of a convenient and economical formula.

Building Action

We built up a series of shots showing the wranglers bringing in the saddle horses. Here was a chance to start with slow action as they rode out of the corral in the early morning light. Then as they located the band and headed them toward the ranch, each succeeding shot had faster action building up to the dramatic climax as the horses were hauled into the corral.

Dudes sitting on the fence waiting for the horses to come in gave this scene a more dude ranch atmosphere and distinguished it from just an ordinary ranch scene.

Dudes arriving in Livingston on the North Coast Limited would have time to arrive at the Sixty-Three Ranch just after the horses had been brought in. In this way it was convenient to build up an arrival scene. As the station wagon rounded the turn of the road leading up to the main lodge about fifteen dudes were riding alongside whooping it up. Next came a close-up of the new arrivals in city duds getting out and being greeted by the host and his family.

There's no fun in being on a dude ranch unless you can get rigged out in Western clothes. Most ranches have a store stocked with just the right thing—showy as well as serviceable. We set up photo-floods overhead in the ranch store and used the same dudes who arrived in the station wagon.

A general view with the corral in the background as a horse is saddled and the newest arrivals come up is the logical introduction to the daily riding sequence. A closeup of the same hoof shown in the ranch store now is effective as it goes into a stirrup and the camera tilts up to the dude—booted, spurred and ready to ride.

Vary Topography

As the chief recreation on a dude ranch is horseback riding it is a good plan to build up a long sequence starting at the ranch and ending with the climax of the ride atop a high divide where the dudes get a view of the vast back country. In this series of shots the in-

terest is increased if each acting is made to feature different types of country such as through timber along an open hillside, going across a mountain stream, beside a lake or waterfall, through rugged areas, along a plateau, on the skyline and then on a sharp ridge with a tilt down or pan to unfold the panorama.

A cut in closeup of the wrangler and one of the dudes looking at the view fills in here. The skyline shot is emphasized if you select a time and location when the clouds are in the sky and then use a 23A or 25A red filter for dramatic effect.

On the way back from the divide we came to an area where a mountain park was almost carpeted with flowers. This of course, would make a usable sequence, so we started to work. A general view showing several girls picking the flowers while the wrangler, mounted on his horse in the background, furnished an excuse to make an effective closeup of him watching the girls and a closeup of his horse's head buried in the flowers as it grazed.

The all essential closeups of the girls and the flowers were made for closing shots. As the flowers were yellow a dark yellow filter helped to make them stand out against the green foliage. Had they been blue, then that would have been one of those rare instances where a blue filter would have been useful. However, in any shots with the blue filter it would have been advisable not to have included sky, otherwise the sky would have been too chalky.

Snow in Summer

These sequences done, the foundation of a dude ranch reel was well laid, so we set out to find shots of activities with more variety of action. One of the favorite trips was to go up above timberline to a pocket in the mountains where snow banks can be found even in August.

A long shot of the horseback party single file making its way across snow was a starter. Then general views and closeups of the dudes having a snowball fight furnished the opportunity for plenty of action from various angles. Remember that on all snow scenes the lens should be stopped way down.

Next day we journeyed across one ridge of mountains to the next valley, where there was a wide meadow with still deep water





enough for the horses to swim. The young girls and boys brought along their bathing suits so it was a simple matter to build up a series of shots of them swimming their horses. The horses surely enjoyed it, and several grand shots were obtained of the horses actually racing.

Ranch routine is usually interspersed with long trips, short trips and some time spent in sport around the ranch proper. Sometimes there are amateur rodeos, roping instructions, or practice riding the buckaroo or synthetic bucking horse.

It's a saddle mounted on a short stout log suspended by four ropes from trees. The dudes get aboard and some one on each rope pulls in rhythm until the buckaroo is flying high with a side wind or somersaulting movement. The sequence is all there; it's just a matter of choosing camera positions and working up a series of shots. A low angle right in front of the buckaroo is always good.

Lighting Ranchhouse

Several times during the season each dude ranch puts on an old time dance for the dudes and neighbors on nearby stock ranches. Everyone cuts loose, and the dancing keeps us until dawn.

We made a Virginia Reel at the Sixty-Three Ranch. The main living room was about thirty feet square, and as the home electric plant was not strong enough we rented a portable generator from a welding company in Livingston.

We set up twenty No. 1 Photofloods 110 volts, but the generator would not put out enough amperage to make them burn strong enough. We solved this difficulty by putting in 32 volt bulbs and dropping the speed of the generator down until it turned out about 40 volts. This made the 32 volt bulbs very bright and with Super XX we were able to get a good exposure.

With light to work with, once again the story was before us and all we had to do was to start. High shots looking down, closeups of feet, closeups of the fiddlers, angle shots, low shots, etc., made it complete. Only problem we had was to be sure the same group was in the same line-up each time we changed camera position for new angles.

By that time we could feel that the dude ranch job was well on the way, but two more sequences were needed to sound it out. We could have made a park trip back

into the mountains with the usual camping scenes or there was fishing, hunting, mountain climbing or wildlife studies.

Also a rodeo would have filled in as would some fancy roping and trick riding to entertain the dudes. We selected the log church in Jackson Hole, Wyoming, where dudes from nearby ranches come to church with boots and spurs as one sequence. And a cattle round-up on the Lazy K Bar Ranch to complete the reel.

Fransing Teton

At the Chapel of the Transfiguration there is an enormous plate glass window behind the Altar that frames an inspiring picture of the majestic Teton Mountains. The Bear Paw and Bar B C Ranches nearby both have stagecoaches that bring their dudes to church. Shots of them getting aboard were made at the ranch.

Some scenes en route crossing a stream and galloping across the flats came next. Always we featured the towering jagged Teton peaks in the background. Then by putting the camera inside the church, looking out of the window, with the cross on one side an effective shot was made as the stagecoach came toward the church.

Closeups of dudes getting out of the coach and other shots of them grouped around in the yard were better than trying interiors, as we had no source of interior light. We did, however, make a silhouette shot of the rector with the offering plate at the altar as a finale.

The mountains through the window made a most imposing backdrop. For such a shot, with the camera inside the building looking out of a window, it's always best to expose for the exterior. If you are using a wide angle you can focus a little beyond the foreground but if not then it's advisable to focus on infinity.

Examine Country First

The meat of any cattle roundup sequence is a general view with a punch. By all means allow yourself one day to look over the country with the boss and pick out a camera position that gives you an effective background and has an area in the foreground where it is logical and easy to put the cattle.

Most important is it to have the cattle come down a ridge toward the camera. Worst of all it is to have them on a flat or hill sloping away from the camera as

the foreground, as the first cattle will hide many behind them and a large herd will look unimpressive. But coming down hill and strung out a few hundred will look like a thousand.

If you have no other alternative than to shoot them on a flat, then try to get your camera as high up as possible. In this case if no cliffs or natural elevation is available then it would be better to make the scene near the ranchhouse and put your camera up in a barn, on top a water tower, windmill or silo. Be sure to avoid fences in such a shot.

Another way to make a worthwhile picture on a flat area is (if there are clouds) to tilt your camera high so that by far the greater part of your picture is sky.

Miniature Western

We made various angles as the cattle were driven past, being sure to have some of the dudes riding along close to the camera. Then for variety of interest, another day we had a regular chuck wagon dinner on the range with leg steaks, beans and Java. For this shot we selected the most spectacular mountain setting possible with scant foreground.

After the wagon and dudes were

all set for the take the cowboys gathered about fifty head of cattle and scattered them about just beyond the wagon. This plan was much more practical than to try to make the chuck wagon scenes on the same day that we made the big herd scenes.

This was the pattern of Universal's Going Places travelogue Dude Ranch just released.

Galloping Hoofs

You can either make this type reel or try a miniature Western with galloping hoofs, a lead couple and a villain woven together in true horse opera style. For such a production you have all of the essential props, settings, etc., right where you need them.

You only have to get a story idea, select willing characters and start to work. A location trip to a dude ranch by several members of a movie club would be enjoyable and a productive venture.

By having a story prepared and a cast already selected and rehearsed the club could actually make a production in the same manner that any of the producers of Westerns would do. Such a film would be a likely contender for a top award in any of the annual amateur contests.

Philadelphia Cinema Club

The June meeting of the Philadelphia Cinema Club—the last one of the season—was enjoyed by a large attendance. The club decided to have two motion picture contests for the coming year. The first one will be a vacation film, either black and white or color, any length, 8 or 16 mm., and will be reviewed by the judges at the November meeting.

The second contest is to be an open one. Any member may film anything, any way he sees fit, and have it ready to be shown and judged at the annual club banquet in January, 1941. Prizes for both contests will be reported later.

The entertainment director did a fine job for the final meeting of the season, having arranged with five fellow-members for the showing of their films, totaling over 2500 feet in all.

W. E. Chambers showed an interesting 400-foot Rezo Kodachrome, called "Glimpses of the New York World's Fair of 1939".

Arthur J. Barth, the club technical adviser, showed about 175 feet of black and white 16mm. film that he made on June 8 during the club's expedition to the Philadelphia Zoo.

R. M. Host screened a 1600-foot 16mm Kodachrome film he made of the 1939 New York World's Fair for the Klenz and Goodman Company, a local photographer

supply house. It was very entertaining and showed Mr. Host had not only chosen his vintage points well, but his photography was equally good.

Next was a showing by the club president, Carl A. Finger, consisting of 450 feet of 16mm. Kodachrome of Philadelphia's Own New Year's Museum Parade, taken January 1, 1940. It was a beautiful piece of work from start to finish, if your reporter is any judge of fine color photography.

The last film of the evening was a 400 foot 16mm. black and white by your reporter. It was an attempt at industrial photography, showing a business school in operation.

HERBERT K. MOORE,
Director of Publicity

Buffalo Amateur Cinema Club

With a record crowd of members and guests present, the Amateur Cinema Club of Buffalo held its sixth annual contest meeting in Hotel Statler, Monday, June 20th.

Speaker of the evening was N. Stewart Love, local newspaper photographer, whose subject was "Composition."

The contest portion of the evening contained as many varied and interesting reels that the judges found decision of a winner most difficult. The winners will be announced at the next meeting.



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Collegiate Cameramen Produce Picture

By KENDALL JULIAN MAU
and DON W. DUKE

HOLLYWOOD—that great reflector of every level of the world's society—has pictured and analyzed all human relationships and endeavors. Yet the film capital itself has remained to a large extent a deep, dark mystery always aloof from the seeking eyes of the public.

But today, right under its very agitated nose, a group of "college kids" are opening Hollywood, and doing such a good job of it that they, too, are setting box office records. Right in the motion picture's backyard the University of Southern California has set up its own motion picture industry and has actual production going full blast all year round.

Under a large staff of skilled professors, supplemented by many of Holly-

wood's most successful producers, writers, and actors, young America is studying cinematography. What is most unusual, however, is the method and technique of study. Under the professional supervision of the university faculty and the films made themselves, these college students actually produce motion pictures in large studios on campus and on the sound stages of movie major companies.

Chief activity of the University of Southern California Cinematography department is the Trojan Newsreel. Founded some years ago, the newsreel was an attempt to give future motion picture workers an opportunity to put classroom theory into practice. This learn-by-doing laboratory has in the last year become more than just a proving

John Cromwell, world director, being introduced into Delta Kappa Alpha, national University cinematography fraternity. Don Duke, president of the S. C. chapter, has just won the top award. Cromwell's work.

ground for academic wanderings—it has become real entertainment.

Popular Success

This year, under the direction of Student-Producer Don Duke, over fourteen thousand students and visitors jammed the sparsely college auditorium between classes to view the bi-monthly issues of the newsreel.

The mere existence of such an organization in the universities of the world is unique in itself. But to have such popular success with amateur cinematography puts the Trojan Newsreel in a class of prominence by itself.

Thus, too, is a tribute to Hollywood. The urge for "box office pull" in a Hollywood influence pure and simple. This is not all that the neighboring major studios have done for their moviebiz counterpart. Hollywood has offered some of its top personalities to advise and lecture the fledgling cameramen and movie workers in the fine art of motion picture production.

Lewis Hyman of the RKO art department has been a constant adviser of the now nationally known Trojan Newsreel. John Cromwell, noted director for Paramount and RKO, personally directed many of the sequences on SC's campus sets. Famous for his direction in "Of HUMAN Bondage," and "Algebras," Cromwell produced scenes from his film "All Lincoln is Illinois" for the students. The



On the special tour from Los Angeles to Berkeley for the California-S. C. football game, Bob Nelson (foreground) directs Herb Farmer in a shot at S. C. made during breakfast.

filming was done by cinematography majors of the university, with students active in campus demonstrations taking the parts of the chief characters.

Technical Problems

Boris Monroe, Floyd Morgan, A. E. Froendson and many other film experts have lent their services in editing, designing and polishing the productions of these Southern California cameramen in the last few months. Hollywood is proud of its thriving brain-child!

Even in college there is an "amateurish" side of motion picture making—the technical problems. The production of a single issue of the Trojan Newsweek entails the service of over thirty-five students from the Schools of Journalism, Radio and Television, English, Art, Chemistry and Cinematography.

But think of the expense! Hollywood can spend thousands, even millions of dollars, on a single set or sound stage. SC works on a shoestring. An entire year's production of eleven thousand feet of film is shot with minute care. Because of the contrasting conditions and circumstances under which a newsweek operates, several types of film must be used to achieve best results.

Rostery millimeter film is used throughout campus productions for greater operating economy and because the finished issue only has a few showings. The newsweek's magazines include Super X Pan, Kodachrome, Super XX Pan, and also the Safety or regular type of film.

Photoflood lighting equipment is used almost exclusively. No. 1 bulbs are used sparingly for light and lamps placed on the set itself, while No. 2 and No. 4 bulbs are the main source of lights in reflection.

In cameras, too, the newsweek is limited by the tightness of the university purse-strings. With the necessity for constant economy and wide variety of uses for

cameras, the staff uses three Bell & Howell 78 DAs, two Victor No. 3s and an Eastman Cine Kodak Special with a motor and two-handed foot magazines. The lenses used include a 13mm., a 28mm., Taylor Hobson, and a 2, 3, and 4 inch group of supplementary lenses.

Then, equipped with only the bare essentials of production, the newsweek tries its hand at camera work. The bulk of SC's production falls into three main groups, the filming of straight campus news events, commercial promotion features, and photographic essays or educational features.

It may be said that the newsweek has become the chief university exponent of visual education. More than any other organization on the college campus, the student cinematography group has added to the school's achievements a long list of successful productions both for the university and for off-campus business firms.

Newest of the Trojan Newsweek's experiments was the production of fashion reels for the coeds. Sponsored by a popular Wishbone bookstore shop, the student cameramen produced a promotion film that brought rounds of applause from both the students who viewed the issue as well as the company which sponsored the enterprise.

Documentary Successful

The shooting of new women's fashions in natural color proved such a success that several other large department stores in Los Angeles made bids for the newsweek to make a similar film for their own use.

This drive for the photographic feature led the producer, Don Duke, to enter into a field of endeavor that he calls "campus documentary film." One afternoon, looking another semester for the next issue of the newsweek, Duke set off across the campus in search of an idea.

At the puzzled producer wandered along, deep in thought, the chances in the tower in Philosophy Hall showed a few clouds and then tolled the hour. This sound, so familiar and loved by every Trojan, gave Duke his idea for the needed feature for the newsweek.

Why not film the chances in action? Why not dab in the sound on a separate track and reproduce the chances for the student body? It wasn't long before the entire sequence was on film and ready for release. Then, before a surprised audience of over twenty-five hundred students, the chances of Philosophy Hall peeled forth from the screen.

An entire exposition of how the chances are operated was flashed before the student body. The instant success of the first campus documentary film brought on more of the same type of cinematography features.

Varied Schedule

In the next few months the issues of the newsweek focused on the huge university organs, revealed the library's system of distributing books, showed how the daily college newspaper went to press, and followed the radio and television department through several of its broadcasts.

The newsweek was doing more than just reporting sports events, covering political meetings of campus candidates, or photographing pretty faces and legs. The cameramen, taking their cue from the ever aggressive Hollywood, were entering new fields of college cinematography. This fare for unusual productions put the SC newsweek, we believe, at the top of the nation's list of university cameramen.

Now with another year of production completed the Trojan newsweek is looking forward to next year's production schedule. There are to increase production considerably. Not only will the number of shows be increased, but several new features will be added. Plans are to produce several features of the newsweek, in natural color and use a sound track.

So now Hollywood has an offspring. It is only a group of "college kids," but parental love is not lacking. And true to all human relationships, these youngsters may some day support their elderly parent because collegiate cameramen really can produce!



News Director John Cronwell (left in background) shows University of South California student players how to walk onto camera rings as student high-spirits in paragoned program to create a series from the director's life partners, "The Love of the World." Cronwell is shown instructing Curtis Davis Johnson of Kitter Hawk, N. C., and Nancy Thompson of Los Angeles. Students brought all equipment, including cameras, lights and props, under Cronwell's supervision, in the first complete demonstration of shooting and quies by the film industry of a major university. Don H. Brown, Trojan Newsweek cameraman, photographs the demonstration.

FATHER MEEUS GIVEN HONORS AT FAREWELL

At the Wilshire Ebell Theatre, Los Angeles, Tuesday evening, May 28 Chinese and American friends of Father Charles L. Meeus joined in honoring him in a farewell prior to his sailing for China. The feature of the evening was the showing of "China under the Stars" featuring Ray Scott, Life's cameraman and also known as the "panda man," with his Kodachrome picture of the Great West of China, Burma (Hway) and Reconstructive Centers.

The photographer gave a most interesting lecture of his experiences in China. He showed and described the real China, the country far from the seacoast. Also he showed pictures of the people he brought back with him, supplying the comedy to lighten the tragedy that followed his pictures of the war-torn people.

One of the thrillingly interesting features of the evening was the Mei Wah Drums Corps, composed of twenty-five or more Chinese galls, who took part in a military drill. They were unusually well trained.

The Robert Mitchell boy show of St. Brendan's famous radio and motion picture organization also entertained. As their closing number they sang "Old Lang Syne," with Father Meeus standing among them.

Also presented to the audience was Chang Shan-wei, eminent Chinese artist, whose friendship for the priest brought him across country by plane to be present.

Father Meeus made a farewell address, in which he fondly told of his sentiments for the United States, the country to which a year and a half ago he came as a total stranger, from which he would and away leaving behind him a host of friends.

The priest was returning to China actively to take up work as chaplain of the Boy Scouts of China. All his work in the twenty-seven cities in this country in which he has labored has been in the interest of that organization, and it has been successful.

Alan Mowbray officiated expertly as master of ceremonies. He was most pleasantly informal, giving the audience the impression it was running the show itself. Anna May Wong was presented. She spoke feelingly—and well—in behalf of Father Meeus' great cause, on behalf of his work with the youth of China.

The priest admits his camera has been somewhat neglected during his stay in the United States. But he is looking forward to resuming it when he gets settled, wherever that may be, on his return. He has taken the opportunity while here to make a study of sound, having in view the possibilities it will

present in time to come of carrying a message far from the point of origin.

Father Meeus while in the United States was deeply impressed by M-G-M's

FOUR AWARDS OUT OF FIVE GO TO GLENNON

BERT GLENNON, A.S.C., for the month of May was declared by the Hollywood Reporter's correspondents' poll to be the best photographer. The subject was "Our Town," Sel Lenz's first release for United Artists. The magazine, it may be recalled, some what went off the deep end on that picture in a general way, but specifically so on the photography. It was rotatable.

In the first eleven months of the twenty-seven the poll has been in existence Glennon was not mentioned among the fringe. In the following sixteen months he has scored four firsts. One of these was shared with Ray Berna. One in the Technicolor "Drums Along the Mohawk." The three others were of black and white: "Stagecoach," "Young Mr. Lincoln" and now "Our Town."

In the same sixteen months Glennon has directed photography on but one other picture—"Swanee River." That means he was awarded for films as far

pasture of "Boys' Town." He has given much thought to the possibility, with the sanction of M-G-M, of making a parallel subject among his own Boy Scouts. He has witnessed abundant evidence of the dramatic ability that is possessed by these boys. He is convinced of the interest that could be put into a story of Chinese youth with his own ideas, camera and under his own hand—and who knows, perhaps, with sound, too.

out of five photographed. Also it means he has established a record that easily may stand for years.

For while the winning of an award for cinematography is a matter in which the element of luck largely enters, in the quality or non-quality of the story, or in the appeal or non-appeal, is the beauty or drabness of the backgrounds and settings, in the license allowed or the limits imposed on the photographic director, and in the thousands and one ways in which a cinematographer may be helped or handicapped by humans or elements—it hardly will be denied that a very large degree of sheer merit enters into a record of four out of five. And that fifth, it will be remembered, was "Swanee River."

Second place in the cinematographic award went to Joseph Ruttenberg, A.S.C., for "Waterloo Bridge" and third place to Leon Shamroy for "Lillian Russell."

The other awards were: Best picture, "Our Town." Best director, Sam Wood, for the same picture. Best actress performance, Jean Crawford, "Susan and God." M-G-M. Best actor performance, Spencer Tracy, "Edison the Man." M-G-M. Best screenplay, Thomas Wilder, Frank Craven, Harry Chandler, "Our Town."

Best supporting actor performance, Edward Arnold, "Lillian Russell." Twentieth-Fox. Best supporting actress performance, Leola Helen Wexley, "Lillian Russell." Rite Quigley, "Susan and God." Best incident performance, George Tolan, "Torrid Zone," W. B. Best musical score, Alfred Newman, "Lillian Russell." Best original song, "Blue Love Bird," "Lillian Russell." Best general feature, "Thirteen Hangers," M-G-M.

Unrestricted Tilt Control

Bell & Howell announces a new feature of Filmo "All-Metal" and "Tri-Pan." Typeds is unusual control of unrestricted tilt. When the new safety control screw is set, the camera may be tilted at will down to an angle of about 50 degrees, and, of course, locked firmly at any angle. B & H claims that this tilt range is far greater than most camera call for.



Bert Glennon, A.S.C.
Photo by Ernest A. Machovina.

WITH GOOD REASON

FROM long experience, cameramen confidently rely on Eastman negative films to more than meet today's production requirements. Extra quality—reserve power—supports each film's special ability; and each is firmly established as the raw-film favorite, with good reason. Eastman Kodak Company, Rochester, N. Y.

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EASTMAN NEGATIVE FILMS

Projectionists Get Closeup of Speed Ray That Really Travels

By GEORGE BLAISDELL



JACK BURRUD, photographer on the Los Angeles Herald-Express, entertained the members of the Southern California Projectionists' Amateur Camera Club at their June meeting with a demonstration of some of the things that may be done by the Speed Ray light. The light is the invention of Dr. Harold Edgerton of the Massachusetts Institute

of Technology. It really is a Speed Ray—its estimated time being 1/100,000 of a second.

Now does this seem like idle talk. A glance at some of the photos that Burrud has turned in to the Herald-Express for printing in its columns justifies the statement. In a recent issue his paper has given examples such as a baseball player

Justice E. Stodley, projectionist at the Golden Gate Theatre, Berkeley Gardens, is shown moving up and down as fast as he can the magazine he holds in his hands. Notice the lower gray with which he holds on to the magazine. W. E. Newman, fellow-projectionist, with a by E Speed Graphic, exposed at f16, an E. K. Pancho Press film, under the supervision of Jack Burrud of the Los Angeles Herald-Express, took a 1/100,000 of a second speed ray. C. G. (Art) Vaughn, upper of two at Stodley's side, and Art Schroeder, intently watch the rapidly moving Stodley.



sliding to home plate with the alert catcher, hands extended, waiting the arrival of the ball stopped by the lens and over the baseman's head.

The boy is not much more than a foot from the baseman's shoe. The ball appears to be four feet from the waiting hands. Calculating the speed of the ball and the necessarily much slower speed of the player it looks like a crash the man is out, or at least is about to be. The umpire is right at hand, carefully watching. But he is without the aid of the camera or the speed ray. He would not be blamed if he declared the man safe. Incidentally the stitching on the ball is distinct.

In the same issue of the Herald-

"*Brass Rex Coo,*" by George Stewart. E. E. Graphic 12.4 by 2 camera, lens Kodak f5.5, stop f22, 1 sec. Developer, D19, at 65 degrees 4 minutes. Paper, P.M.C., 11 and 12-1/4 are, 70 degrees. Class A.



Express other examples were given of the seemingly miraculous work of the speed ray. A bowling ball slides into a set-up, with the camera on the side of the pinley. Pins 7, 8, 9 and 10 are swirling, although 7 and 8 are wobbling. Pins 4, 5 and 6 also are standing, but all are somewhat groggy. Pin No. 3 at a 45-degree angle has slid around behind No. 6, pushing it off its base, toward the center of the alley, and its own base about to crush into No. 10. Nothing apparently has touched No. 2, but it is well off the alley, taking probably Nos. 4 and 7 with its top.

(All right, you just try to call the numbers of the pins from the point of

H. R. Hermann kept showing us just how simple a thing the 1 inch second speed ray is. Under the table and behind all the spectators is a small platform on which rest many coils of wire. Then comes the box containing the "works," set over a rubber foot in one corner that is the reflector and the large bulb. The speed ray on this shot is utterly not working. Standing around from left to right are Jack Stahley, who supplied the P.A. system for the day; Porter Stadel, Louis Krasnau, Les Moore, Fred R. Cramer, Jack Barab, is distributor, who has been the jockey, Jack Barab, representative of the Herald-Express, Myron Single and H. K. Reynolds of Long Beach.

he was able shook it up and down, with all the speed he could get into it. G. C. (Bert) Vaughn, projectionist at the Up-town Theater, the upper of the two spectators, he with the serious face, and Art Schroeder, projectionist at the Chinese Theater, he with the smiling face, rated as closeups.

Hermann used a 4 by 5 Speed Graphic, f16, and E. K. Panchro Press. The picture speaks for itself.

The light flashing machine is the creation of Dr. Harold Edgerton, as said. The entire equipment is perhaps 5 feet high, minus the bulb and reflector. That bulb, by the way, cost \$34.50, and Barab is none too careless in throwing it



"The Gemini" by Les Moore, 3 1/2 by 4 1/2 Speed Graphic camera, lens Triesto, f11 1/2, stop 1.5 at 1 second, Developer, Neg. DAKN, paper 266 Class A.

view of the gobos and see how we make out)

There are other examples, but none seems quite so striking as the two mentioned. There is one, though, which we reproduce here through the courtesy of the Herald-Express, which stands out. That is of the racing car, traveling sixty miles an hour. To those of good enough the imprint of the tire, the rear left one, is exceedingly plain "Boss Helget" stands out. At sixty miles an hour, with a tire measuring 67 inches in circumference, that wheel was making 545 1/2 revolutions, approximately, a minute.

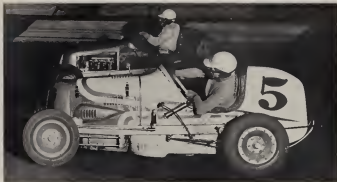
Which, we might arise to remark, is quite fast.

But there is another exposure printed herewith, one taken with the speed ray. It was photographed by a projectionist, W. R. Hermann, who never before had seen a speed ray. The taking of the shot was witnessed by the editor, who incidentally was an interested spectator Jack Barab of the Herald-Express supervised the exposure.

Porter Stadel, projectionist at the Golden Gate Theater, Belvedere Gardens, picked up a current copy of the American Cinematographer and as violently as



"Stunt Daisies," by Paul Newman. Kodak camera, lens Tessar, stop f12. Time of day, 6 P.M. Developer, Velox. Paper, Brinn-Mecham, Class B.



around it will burn a long time, though.

It is estimated the new light has a speed in excess of four times that of sunlight. When Hernandez made his shot under the supervision of Jack Burrud the light cord was plugged from the speed ray box into a regular 110-volt alternating current. The 110 are stored until they become 2900 volts, when the flash is released.

Burrud uses an ordinary 4 by 8 Speed Graphic camera with a 3 1/2-inch Zeiss-Tessar f 5.6 lens. A cable attachment synchronizes the light at speeds ranging from 1/36,000 to 1/100,000 second. The average lens stop for action photos is f11.

PROJECTIONISTS CAMERA CLUB MEETS

By PAUL CRAMER

The Southern California Projectionists Camera Club has finally hit the stride with the success of this Salon. This showing was the most successful from an educational standpoint.

The judging was done by Jack Barby, who was presented to us by Leo Moore of M-G-M studios. The subject this month was "Table Tops and Still Life," which is always a tough assignment. Mr. Barby is an internationally known authority on photography, having had his pictures hung in Salons all over the world, but he still retains his enthusiasm

Reproduction from Los Angeles Herald-Express of speed ray photograph wherein car traveling at speed of sixty miles an hour is stopped so suddenly as to make plain the inward of some of the rear left wheel. With a tire 27 inches in circumference that meant the wheel was turning about 212 1/2 revolutions a minute.

for the amateur photographer. Therefore through his knowledge he was able to point out to us our faults and the proper method of correcting them.

In Class A the picture, "Why," by Edwin McQuaid, was awarded first place.

"Why," by Ed McQuaid. Corvus Vica camera, lens Zeiss G.S. stop f15. 3 seconds. Developer, DK, 6BA. 1 stop unit spot and collector. Class A.



This picture had definite eye appeal, the blacks and whites were distinctive yet not too contrasty. The composition was good, with just enough table edge in the foreground to distinguish the fact that it was a table's edge and complete the diagram to the edge of the table in the background. Following the technical data beneath the picture you will note that everything was just right, the type of film used, developer, time, paper, etc.

"The Wrong Hen Coop," by George Stewart, was awarded second place. As a picture of still life this would be hard to beat. The workmanship was excellent. The composition was good. The use of the dog, the fence, and the doghouse as well as the man's leg were correctly proportioned. The lighting was good. The main light came from one source, with just enough front light to bring out the detail.

"The Dreamer," by Leo Moore, was awarded third place. The general overall quality and workmanship were splendid.

"Hospitality," by Edwin McQuaid, was awarded honorable mention.

In Class B we had a close contest for honors. Paul Neuenburg and Duane Adams running neck and neck for the award, with Paul winning in a photographic finish for first place. Second award went to Duane Adams. Paul Neuenburg also won third award for his entry on flowers, with Duane Adams getting an honorable mention for his second entry.

Following the judging Larry Knequest of the Commercial Art Department of the Douglas Aircraft Corporation was introduced. Mr. Knequest is known throughout the United States for

(Continued on Page 356)

Making a 16mm. Middleweight Camera Dolly

By HUBBARD HUNT

IN the June issue of this magazine this writer described the construction of a 16mm film synchronizer. Both this machine and the camera dolly described in this article were designed and constructed by the Hubbard Hunt Productions as they were unable successfully to adapt the heavier studio equipment to their work.

We needed a slightly smaller, lighter and more flexible dolly. It had to be narrow enough to pass through doorways in public and private buildings, as much of our work in producing industrial films is done on the client's premises.

With these points in mind, I submitted the basic ideas to Sterling Barnett, who has since founded the Pacific Laboratories. Mr. Barnett has already constructed a lightweight dolly for hospital use in the production of medical films.

This original dolly, quite different from the one shown here, is now being used by Billy Barker, one of the leaders of Medical Film Production. Full credit should be given to Mr. Barnett for his engineering ability. It is interesting to know that no changes had to be made on the original dolly, and with three years hard usage no mechanical defects have shown up.

Most professional cameramen ask us why we used three wheels instead of the usual four. Simplification of construction and ease of handling are the two basic reasons. As much of the work is done off the tracks on the client's floors or carpeted surfaces, the lighter construction and three wheel feature allowing a narrower rear base, simplifies movement in limited areas.

Without cameras, the dolly weighs 385 pounds. Most studio equipment ranges from 1200 pounds up. A three-wheel track is quickly assembled when needed. The track, made of U iron, is fitted into slotted wooden ties. Ball-bearing wheels with hard rubber tires mount ahead and smooth motion.

A T-shaped steering handle is connected directly with the angle rear wheel fork. The streamlined construction with the wheels inside the castings elimi-

nates all obstructions on both sides of the main base.

Split Base Construction

Probably the most interesting feature is the split front platform which allows the beam to drop to a high flat position. When fully extended in the highest position the friction head base on the parallelogram rises to 7 feet 10 inches, which gives a reasonably high lens position. This of course varies with different cameras and mount set ups.

As the beam drops to the floor the hinged foot rest folds up out of the way to allow the extreme low position. The front platform can be removed to take additional plates for other makes of friction heads or gear heads.

Much of our work has been done with a Bell & Howell friction head, which mounts our 16mm. biting or camera. Where as the dolly was designed for lighter cameras it will handle any of the standard studio equipment with ease. A 35mm. camera and blimp probably weighs thirty pounds more than our 16mm. equipment with its motors, installation and follow focus mechanism.

The knurled sleeve on the parallelogram control arm which forms the top link adjusts the forward or backward tilt of the friction head base. A small seat, tied in with the parallelogram mechanism can be used by the cameraman when making moving shots. This keeps the seat level at all positions.

Ride platforms are not provided, as the cameraman and assistant can use the supporting legs which form the front of the base castings. Top surfaces on the base have corrugated patterns milled in the original casting.

Middleweight Camera Dolly

Thumbknobs, driven into the wooden pattern, formed the non-slip surface on the casting. The raised platform in the center of the base houses the electric motor and gear box.

All parts with the exception of bearings and axle shafts were cast from aluminum. Parts which are subjected to greater stress are cast with 7000 aluminum.

NOTE: The following is a list of primary-made:

- Main base
- Rear wheel bearing support
- Main pillow blocks (one pattern)
- Supporting arms (one pattern)
- Lower parallelogram pillow block
- Upper parallelogram arms and camera base support
- Friction head base
- Seat pivot arm
- Split yoke for lower parallelogram link
- X yoke to connect beam arms
- Two smaller patterns for bronze connecting links, bearings and gear assembly yoke

All moving parts are steel against bronze and are supplied with Zerk fittings to insure correct lubrication. The gear box is filled with a special transmission grease supplied by the Union Oil Company. After the dolly had been used a few months it was disassembled and all parts subjected to corrosion were plated.

Electric Drive

Sufficient power was needed to lift the beam, cameraman and camera, silently and smoothly. A one-third horse power Bodine and gear box were selected, which drives directly into the main gear box through a universal joint.

The twelfth input plug, located on the right hand pillowblock support, connects with the arm on pole General Electric switch located between the upper arms and is in front of the cameraman's seat.

To prevent the beam from traveling beyond the two extreme positions, an automatic switch was installed which connects with the parallelogram movement. This is very important as the geared up lifting screw has sufficient power to crack castings if the travel exceeds the normal positions.

Knurled nuts, with fixed check nuts for safety, can be moved in any position to stop the upward or downward movement in any desired position. If the actor calls for a dolly in with a camera drop, the assistant cameraman makes the required test set up by checking both positions through his reflex or outside finder.

This operation can be done in a few seconds by moving the stops to the required position on the rod which slides through a block attached to the parallelogram seat arm. Two hot rollers are located on top of the control switch for camera or light.

Speed in Camera Set-Ups

Actually, the dolly is more often used to replace the standard tripods than for special effect shots. The ease with which the operator is able to place his camera in the desired position, whether it is a high flat position or eight feet high, has proven to be its greatest advantage. Needless to say, it has more than

Agfa's Superpan Reversible Available for Memo Camera

A fifth film, *Superpan Reversible*, has been made available by Agfa Anso for the 35mm. Agfa Memo Camera.

It is similar to that which has been supplied in 35mm. cartridges for Leica, Contax and other miniature cameras, and provides users of Memo Cameras with a fast, panchromatic reversible film that has many special applications.

Balancers, lecturers, teachers, demonstrators and others who employ 35mm. film strips for projection purposes will find *Superpan Reversible* a valuable and time-saving material since the original film, which is exposed in the camera, is developed by the reversal process directly to a positive of excellent projection quality.

This developing service, supplied at a cost of fifty cents per cartridge by seven authorized Agfa Anso laboratories throughout the United States and Canada, eliminates the need for preparation of a separate film positive.

In addition to its ample speed, panchromatic color sensitivity and brilliant gradation, *Superpan Reversible* film provides remarkably fine grain—a characteristic that has caused it to be selected in many instances where the final photograph was desired in greatly enlarged form.

"earned its salt" in the few years we have had it.

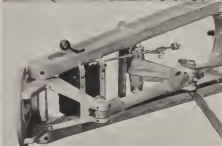
The sensitive switch raises the beam in inches or feet with the flick of the switch handle. To reverse, the switch must be placed in neutral position first. The split platform makes it possible to straddle table legs and protruding corners. Many difficult camera positions have been set up with a minimum of effort.

A light weight, two wheel trailer has been recently made for transportation to locations from the Talmann Studios.

An early picture of the dolly before completion. The front foot supports and steering handle were not added. This is Cine Kodak electrical driven camera is set up for a closeup shot.

Closeup of friction head base and control mechanism. Note the inserted adjustment sleeve to level camera base. The sliding bar, attached to the switch handle, is actuated by the parallelogram motion as the beam rises or drops. Knurled adjusting nuts control both positions automatically. All moving parts shown are cast from Sinter aluminum.

This view shows the low or Pitch flat position of the midlength dolly. No-Hunt is shown with a new friction head assembly. Note how the footrests have folded up out of the way. The control handle bar has stopped automatically in the down position. Both the reel and camera base are level with the floor.



SCANDINAVIA

By MABEL A.

Crofton Jones



LAST June I packed a suitcase of Kodachrome film and a much smaller one of clothes, picked up an umbrella and a 16mm. Cinekodak, and started for Scandinavia to enjoy a trip to the northern countries and bring back a documentary record of the life of the people.

Places which were visited in Norway, Sweden, and Denmark which seemed points on a tourist's itinerary have now become historical spots. Countries whose "northern way" was so peculiarly their own have changed. My trip and my pictures have become part of history in a short nine months.

Sailing from Newcastle to Bergen by way of Stavanger, the trip was scheduled to take me through the fjords to Molde, north by coastal express steamer to Helsingør, into Finnmark. Returning I was scheduled to go south by water to Trondheim, inland by rail to Oslo, from which point I went into Sweden.

After a weekend in Karlstad, it was planned to continue to Leksand and Upsala, into Stockholm, where I was a delegate to the congress of the International Federation of University Women. After some time there I was going south to Malmö by way of the Göta canal and other transportation, on to Copenhagen and back to Glasgow for sailing by way of London.

Composition Problems

As soon as the boat came to Helsingør after Stavanger, the problems of light and photographic composition were so interesting that I marked my trip by records of photographic situations more than by miles. With the long twilights in southern Norway, followed by the "white nights" as I went north, problems came up the solution of which was not seen

until I returned home and saw the developed film.

In the late twilight, for example, a peculiar pastel effect came upon the land and water as if the light and air were mixed in a new combination. Landscapes seemed to be two-dimensional with a film coloring color over them.



In Karlstad [Sweden] one of those cold, crisp hours showed up the scene in the paper-pale north. A crowd carrying his fishing line came down the photo.

"So silent was he upon his problem, otherwise having the trouble of a boat the photographer twenty feet away."

Among the fjords, the scenery was amazing, with vistas opening at each turn. Small farms clinging to the water's edge and isolated villages were dwarfed among the glaciers and the towering cliffs.

Cathedral Spire Dominates

At Molde, the fishing town at the edge of the fjords, brilliant flower-lilies were blooming in gardens where rose, poppies, pansies, "golden rain" trees, and other flowers, forced by the light and warmth of the long days, were growing in profusion.

Market Square—Trondheim, Norway

Fishing Boats—Lofoten Islands, Norway

Right of Arch, Sunlight, Lofoten Islands, Norway

Tranøy, blue bay played with mountains

Started back town of Finnmark, Norway

mountains. It explained why the artists come to Tromsø for the summer months.

The most interesting episode of the Norwegian trip, as far as photography was concerned, came after the boat had gone beyond Hammerfest and the North Cape, and arrived at Honningsvåg, a small fishing village from which the small steamer leaves for the Finnmark village of Hamboikut.

When the boat arrived at Honningsvåg, the fishing fleet had just returned from banks fishing, an activity carried on only in late July and August. The boats were being prepared for the return to the fishing grounds; the catch was being weighed, sealed, and cleaned on the wharf by the men, women, and children of the village.

Activities at Height

For two hours I photographed the picture of this village at the height of its activity. The boats in the harbor were thick enough for the boys to step from one to the other. The crews were rapidly preparing to leave for another day's work.

Before the end of the light at 8 o'clock, because of the rain, the photographer had the pleasure of watching the boats leave the bay and the tired workers finish their labor on the wharf.

After an interlude in Finnmark, a return through Trondheim and inland through Dombås to Gelo, I went into southern Sweden. By this time half of the film had been posted back to Hollywood, the umbrella showed signs of wear, but interest in finding pictures of the life in Scandinavia had not decreased.

The first stop in Sweden was at the capital of Värmland, Karlstad, near the home of Selma Lagerlöf, the Swedish Nobel Prize winner then living. A trip to Marbacka, the home of the author, was made while she was working at a new book. She has since died this winter.

Charming Accident

In Karlstad one of those charming accidents occurred which provided a very human element in the pictures of the log rafts being boughed down to the paper pulp mills. A small boy of seven in his blue coveralls and carrying his fishing line came down to the banks of the stream near the photographer.

So intent was he upon his problems of losing his bait, tangling his

line, and otherwise having the troubles of a very young fisherman, that he did not see the photographer twenty feet away using him as the typical boy of Karlstad.

Eleven days in Stockholm gave time to walk about the city, ride in the speedboats through the canals and on the waterways, go through the arteries of traffic on street cars, busses and taxis—in short, see the city. During this time the eighth annual folk dancing congress of the Folk Dancing Society was in session with 2680 young people in native costumes of 23 countries of the world in the streets and in exhibition dances.

While photographers were not allowed to take pictures of the dances, there was time to make a record of their beautiful costumes as they marched or walked on the streets.

Life of the People

With the help of a young university student, I went through the city, taking pictures of the co-operative department stores, apartment houses, retail stores and offices, illustrating the activities of this movement in Sweden. These things were definitely part of the life of the people.

TENTH BIOLOGICAL MEET CALLED FOR MILWAUKEE

The tenth annual convention of the Biological Photography Association will be held at the Hotel Schroeder, Milwaukee, September 12, 13 and 14. This society is interested in the further study of photography as applied to the biologic sciences and the improvement of its technique.

Scientific photographers from all parts of the country will meet to exchange ideas and information on still and motion picture photography as well as the latest developments in color work. Formal papers will be presented outlining new methods of technique and there will be informal round-table discussions which will be especially instructive.

Commercial firms specializing in the manufacture of scientific photographic apparatus and materials will exhibit and explain the use of their products. A salon consisting of natural color and monochrome prints of biologic and clinical subjects will illustrate a very high degree of perfection in biologic photography.

During the past year the BPA has offered its cooperation to the United States War Department in connection with a plan to organize clinical dissection units in the Swedish division in

After Stockholm another episode similar to that of Honningsvåg in the unity of its tone and the possibility for a full picture was that on the Gota Canal when, for three hours on a day of warm sun and blue sky, I recorded the life on the canal banks and on the water.

The morning was breathless and golden. The mountain ash on the banks of the canal were filled with red berries. The farmers were taking in the most golden harvest of 1939. On the sides of the canal there was an idyll of peace and beauty; on the water was the busy traffic of the canal boats.

The tightening European situation changed the plans of the trip and to include but three days in Copenhagen, time enough for street scenes only: bicycle racks with hundreds of bicycles, the famous fish market, the itinerant street painter.

Film posted from various spots in Scandinavia eventually reached home, completing a 1600-foot record of life in Scandinavia in the summer of 1939, seen through the eyes of a woman interested in the everyday life of a people.

time of war. A questionnaire formulated by the War Department has already been distributed and a complete discussion will be in order at the September meeting.

The membership of the Biological Photography Association is composed of professional clinical and biologic photographers as well as physicians, dentists and scientists who are interested in this specialized branch of photography. A quarterly Journal is published containing articles of vital interest to the biologic photographer. The society also circulates albums dealing with specialized photographic technique and traveling salons for exhibition purposes. These traveling salons are made up of selected prints from the annual meetings and make excellent exhibit material for various scientific conventions. At the end of a year the prints are returned on request to exhibitors.

Further information concerning the convention program, salon specifications and membership in the society may be had by writing to the secretary of the Biological Photography Association, University Office, Magee Hospital, Pittsburgh, Pa.



CHINA AT BAY

PORTER D. DILLEY is back in Los Angeles after two years in China with his camera and 25,000 feet of film. His "China at Bay" is the title selected for the 1800 feet of the total. This part was taken in the South of China. A little over half the time he was with the Japanese army, in Manchuria or North China. With the troops of that nation his journey covered 12,000 miles.

Also while with the Japanese he took pictures of the national religion, of farm and home life and of some of the Japanese handicraft.

"China at Bay" is a new picture of China. It is new in the sense of time, having arrived in this country as recently as April; new in the sense of subject matter, as it portrays a phase of China's defense heretofore unrecorded on celluloid.

Instead of handling the usual material of war film such as showing that of high-ranking officers, masses of marching troops and columns of mechanized equipment, this film vividly portrays the defense efforts of the local population.

In these portions of "free" China which are unable to receive protection of the central forces, these groups shoulder the burden of defense, using whatever resources they may have at hand in an effort to carry on the present progress of the Chinese Government for continued resistance to the invader.

Included in this picture are scenes of small manufacturing establishments, operating in hidden caves and abandoned buildings, mobilities, training, living conditions, and armament of these civilian fighters, primitive transportation methods necessitated by the destruction of the highways; hospitalization of the



A *Red Cross* unit rendering first aid to wounded. In South China more than 90 per cent of these operations are performed by the majority of their workers are

1. Small local arsenal where old rifles are repaired and made usable. Some of these guns are forty years old, having been made by the first Kiangsi arsenal in Fuzhou at the turn of the century. In these same rooms is another important activity. Note the unexploded shells under the tables. These were shot into this area by Japanese. The shells which do not explode are gathered by the Chinese, broken apart with hammer and chisel, and the materials used for hand grenades.

Wounded soldiers consigned before being moved from country to a hospital. These men must all be moved by the primitive method of "rucksack carriers," and as this method of and when enemy planes approach, the carriers can place the wounded on the ground, but not themselves, and subsequently it is difficult from the air. In some of the films showing the subjects as people, it makes a heartbreaking picture. Wounded are moved by this method sometimes as much as twenty-five or thirty miles.



wounded, and the reaction of those rural Chinese to war of the form that is imposed by the Japanese.

The picture runs approximately fifty minutes. It is offered to clubs and other groups as a program for their membership or to prospective sponsors for presentation to the general public.

The picture is revealing in the insight

it conveys into the situation in China. The pictures are taken off from the beaten track. They give more than an inkling why Japanese after three years following undeclared war upon China, three years after the statement that six months would be sufficient to complete its conquest of China, Japan finds itself still far from winning its war.

EASTMAN'S 8MM. CAMERA MAKES MARKED ADVANCE

A NEW magazine-loading Cine-Kodak 8 is announced by the Eastman Kodak Company, Rochester. First shipments were expected to reach dealers sometime in June.

The new camera has all the features normally expected in a de luxe home movie camera of the larger films, size, plus a compartment and styling all its own. Smooth contours, metal parts in brush finish chrome and genuine black cowhide cover set it off at first glance. Its features include:

1. Three-second loading, with compact magazines, black-and-white or Kodachrome, that can be interchanged without loss of film. Each magazine carries a small indicator scale, on which to record what footage remains unused.

2. Interchangeable lenses—with a 13mm. f19 as standard equipment and five others offering magnification of two, three, four, five, and six times

These lenses are a 55mm. f10, a 35mm. f2.5, an ultra-speed 85mm. f3.6, a 65mm. f2.5, and a 70mm. f4.8. A single adapter fits the camera for use with any of the accessory lenses (except the 55mm. f19, which doesn't require the adapter).

3. Four filming speeds—26, 24, 21, and 18 frames a second, or the full range from "normal" to "slow motion."

4. An unusually sturdy, long-running spring motor, which makes possible the filming of scenes nearly a minute long at 16 frames a second on one full winding.

5. A single enclosed direct-view finder, neatly serving both standard and accessory telephoto lenses. After changing to a different lens, the Magazine 8 user simply turns a knurled ring until the focal length of the lens appears in an indicating window—and the finder field then corresponds to the picture field.

Such a finder also assists in selecting the most suitable lens for a particular shot.

6. Automatic footage indicator, visible through a window in the camera, to show just how much film remains unused.

7. A pulse button, that thumps against the user's finger each three inches of film (1/4 seconds of projection time), thus helping gauge scene length. At normal filming speed, eight to ten thumps suffice for the average scene.

8. A large, easy-to-grasp winding key which can be replaced with a winding crank if desired.

9. An ever-ready exposure guide—the new Cine-Kodak Universal Guide, permanently attached to the camera and keyed for each individual roll of Super, Cine-Kodak film, black-and-white or Kodachrome, for use indoors or out.

10. Accuracy filters and similar aids, including all standard filters for panchromatic film, all Kodachrome filters, and the Pula-Screen.

11. A choice of five carrying cases—one, a soft leather pouch for the camera alone, the other, a brown cowhide combination case for the camera, three magazines, and some accessories.

Steady in appearance, easy to use, superb in results, the new Magazine Cine-Kodak 8 with standard 13mm. f19 Kodak anastigmat lens, is priced at \$97.50.

New Eastman Products for Amateurs Ready for Sale

Several new products of interest to amateur photographers are announced by the Eastman Kodak Company, Rochester.

An attractive, efficient cover of transparent solid silk material, with brown tape binding and draw string, is announced for the Kodak Precious Enlarger. Roomy enough to cover almost any assembly of Precious Enlarger attachments, it affords valuable protection against grit and floating dust. It is priced at \$1.50.

Designed to permit use of one filter without a separate retaining ring, a new type of Series V and Series VI Kodak Adapter Ring for Kodak combination lens attachments is announced. The new rings are polished and chromium plated. Prices are: Series 5, 75 cents; Series 6, \$1.

A new 1 1/2-inch f2.8 lens for Kodascopes Models G, E, and EE, to fill projection requirements intermediate between the 1-inch and 2-inch Kodascopes, is now available. Price of the new lens is \$10.

The new Magazine Cine-Kodak 8, with standard 13mm. f19 lens, described by the manufacturer as "the simplest, yet absolute" of all Cine-Kodak 8s. Standard lens interchangeable with five telephoto lenses, providing a magnification range up to six times.



Special Effects

Enticing with Good Splicing

By CLAUDE W. A. CADARETTE

MY observation of hundreds of amateur films has convinced me that too many amateurs are relying on the use of titles to tell the story in their films rather than the use of the scenes themselves.

And judging from the generally inferior types of films that are used, it is evident that the amateurs eliminate as many titles as possible and try to tell the story as clearly as they can by the scenes.

After a film has been carefully edited and told it is well to preview it a number of times to determine what titles are essential and what titles can be replaced with a transition of special effect.

Special effects, such as wipes, lap-dissolves, fadeouts, transitions or montage sequences are a means of interlocking two sequences or ideas without resorting to a subtitle.

As we have stated before, any title that is used always retards the tempo of a picture. Any special effects that are substituted for a title will keep the screen active, and in most cases tend to increase the speed of your continuity.

There are innumerable times when a properly placed effect will save two or more scenes intended to portray change of location or time. If, for example, an actor receives a telegram to depart for another city, show him reading the message, then giving a model airplane propeller a twist on the desk.

Avoid Tedious Shots

For a closer of the small propeller, then lap dissolve or wipe to a spinning propeller on a large transcontinental airliner. Then a medium shot of the actor walking to the plane with a suitcase will immediately convey the idea of a quick departure.

This method obviously quickens the

tempo, as it is not necessary to film tedious shots of packing, purchasing tickets, etc.

Lap-dissolves are an effective means to make changes of locations or lapse of time if the cameraman uses a little ingenuity. A calendar showing "August 1" can be lapped with a shot of the same calendar showing some other date as "December 15" to give the impression of a lapse of time.

This is far better than a title flashing across the screen which usually interrupts a good flow of continuity. Then, too, many scenes in travelogues that are taken in the same locality can be lapped to break the repetition of straight cutting of scenes.

Use Montage

The line of demarcation between the use of a wipe-off and lap-dissolve is so fine that it is difficult to set any definite rule for the use of each effect. Generally a wipe-off can be used on opening scenes or titles where the effect may add to what may otherwise be uninteresting scenes.

Usually the lap-dissolve will substitute for a wipe, and in view of the ease in which lap-dissolves can be made it is more to your advantage to confine the wipe-off to a small number. If your camera is equipped to make either effect with ease then you can use your own judgment as to which effect you desire.

Montage effects are indispensable for creating any change you need, and it is not necessary to have any special equipment or back winding camera. Montage is the art of properly placing scenes together to convey an idea or change by pictured abstractions.

Let us assume that we want to show an action that designates the fast travel of news or gossip. With your car on a

country road, traveling about 50 miles an hour, get some footage of telephone wires and poles stretching across the film. Shoot upward so that you get only the wires and cross-bars of the poles.

Take enough footage so that the film can be cut into numerous sections. By interpenetrating these sections between short shots of people talking or phones and cutting each scene short, you can suggest the effect of fast speeding news. Many montage sections of film are no more than two or three frames in length.

The whole effect of the montage sequence is lost if one scene in it is too long. It requires only quick flashes of corresponding subjects to force the effect into the minds of the audience.

Naturally these short sections of film must be accurately spliced so that there is no jump or side away of the film in the projector gate.

Smooth, Synchronous Action

Editing and cutting of film is an important factor of motion picture work.

After you have worked hard to film a scenic or travelogue, you wish to present it to your audience in the most pleasing manner so that the best elements of the picture are brought out.

Proper editing eliminates any doubt or confusion that may enter the viewers' mind, and the smooth synchronous action keeps the picture flowing at an even tempo. Most audiences are not as interested in how you took the picture but are concerned only in your ability to tell the story effectively.

The picture story must move along at a regular pace, and any actions that create a lull or drag must be removed. Keep your sequences separated by fades or appropriate special effects. Titles can be broken up into phrases to maintain the tempo and prevent long periods of a weakened screen.

Good editing and cutting will always keep a picture in the prize winning classification, although it may be deficient in other qualities. Errors of photographic or composition are overlooked to a great extent if the tempo is kept at a regular pace and the continuity is correct.

These phases of motion picture work, coupled with clean indestructible splices, will give your picture an air of professionalism.

Splice Necessary Evil

Splicing must be done with great care and precision. A splice is a necessary evil that we must tolerate, so the operation must be accurate to minimize its presence on a screen as much as possible.

Each frame of our film is subjected to a tremendous magnification when projected on a screen. Any slight defect in splicing is, therefore, greatly enlarged to the audience.

Splicers are equipped with emulsion scrapers and registration pins to accurately overlap the splicing ends. The

greatest mistake that is made is splicing in the application of too much cement and the use of cement that has thickened through age.

An splice is an actual welding of film. When cement has been applied to the scraped end of a film, it dissolves part of the film base. When the other section of film has been overlapped and pressure put on the splice, the dissolved portions of film bases begin to harden and weld themselves together.

Fresh Cement Best

It is a good practice to rub the splice with a soft cloth after the pressure has been removed to clear away any grit or bits of emulsion. Fresh cement used sparingly makes a stronger splice than a large amount of old cement. After the splice is made, examine it in the film viewer for any light streaks on the edges of the cuts.

If these appear, it means that too much emulsion was removed and the section must be replaced. Test your splice by giving it a slight jerk, as it is less embarrassing to have it break apart at this time rather than in the projector. Your audience should have the

impression that your film is one continuous strip and not a series of attached scenes.

When Splicing Kodachrome

Kodachrome splices make for another type of smoothness in your pictures and should not appear as though they had been made with a jackknife and a pot of glue.

Your ability to minimize splicing evidences will denote your splicing technique. The splicing of Kodachrome is the same as with other types of emulsion. However, it is necessary to remove more layers of emulsion. Be careful not to frill the edge of the emulsion where the scraping has been done as this will allow light to leak past the edges of the cuts.

Before projecting your older reels of film, examine the splices to check their strength, as a poorly spliced in the projector invariably results in a burnt frame and torn perforations.

If all elements of your pictures are made as perfect as possible, do not detract from these elements with poor projection. Small things make for perfection, but perfection is not a small thing.

ARTIST USES MOVIES TO STUDY FORM OF BIRDS

DUCKS flying upside down, falling into air pockets, crashing like airplanes—these and other peculiarities in the flight of birds are described in Richard E. Bishop's article appearing in the Spring issue of "Films Topics," just released by Bell & Howell.

Mr. Bishop has long been regarded as one of the foremost students of American game birds, and in his article "Wild Flight in Slow Motion" he reveals that the slow-motion camera has been of great value to him in depicting form during the flight, take-off, and "jockeying" of the birds.

Mr. Bishop makes his own movies with a six-inch lens on a Filmo 70 Camera which is geared to operate at 128 frames a second, eight times normal speed. Thus, on the screen, his subjects are slowed down to one-eighth their natural speed.

As Mr. Bishop says: "A picture of a duck going by at a normal 28 or 40 miles an hour is just a blur when filmed at normal speed, but when taken at super-speed the duck goes past like a wasp in lazy flight."

Mr. Bishop tells how he selects two or three feet of film, splices it to form an endless loop, and then runs it continuously in his projector. He watches this continuous picture for perhaps half an hour, "until I have absorbed every detail of this particular flight action, until awareness of it becomes a part of me

Such study reveals the relationship between the wing action and the carriage of the head, neck and feet. I have never found a better way to study rapid action for accuracy and memorization in portrait."

Many facts of animal interest have been revealed in these pictures. Since Mr. Bishop knows exactly how many



"Lake Erie Mallards," by Richard E. Bishop. Note the lower bird jumping into the air without a long take-off, as Mr. Bishop describes.

single frame are exposed in one second by the super-speed Filmo, he has had to count the number of frames in a given film of bird flight in order to calculate the number of wing beats per second.

Those wild ducks you saw streaking across the sky early this spring were leaving their wings at from seven to ten times a second!

Mr. Bishop's camera has also discovered that wild ducks do not always make perfect landings. He has seen film in which a widgeon is shown losing its balance in an air pocket and falling headlong into the water! Another picture shows a flock of yellowlegs blown off balance by a sudden gust of wind and flying on their backs!

Van Leuven Returns from East with Prospects Good

John F. Van Leuven of the Penda Machinery Company, Los Angeles, has returned from his eastern trip. He made stops at Chicago, Detroit, Rochester, Boston, New York, Washington, and Dayton. He found marked interest in his Show and Store developing machines, especially from those who are using them. Also he found inquiries strong, with several orders for subscription of bids.

Mr. Van Leuven admits if prospects work out his indications lead him to think they may be well have a busy year ahead of him. "I am going to be all out for that possibility," he declared. "You see, we have really been in business or manufacturing only a little over a year. Before that we were experimenting. Now, that is behind us and we are all ready to go. And the outlook is bright."

Los Angeles 8mm. Club

The June meeting of the Los Angeles 8mm. Club was held in the Bell & Howell Auditorium, Hollywood.

The meeting was called to order by Vice-President Zeuna, who turned the introduction of five new members to Al Leitch. The newly admitted members were A. W. Apel, Captain F. J. Kinschwer, Elizabeth E. Earl, Frances Smiley and R. W. Felix.

Due to the retirement of several of the members, new committee chairmen were selected. They were Lewis B. Reed, Show-in-Committee; Allen Smith, Social Committee, and Henry Hixlenton, Projection Committee.

The program of the evening was devoted to the showing of pictures taken by the newly admitted members, as follows: "Seven Days," by A. W. Apel; "Fire Department Fire Drill," by Captain F. J. Kinschwer; "Summer Holiday," by Elizabeth E. Earl; "New York Fair and West Point," by Frances Smiley.

Additional pictures shown were those taken by Dr. Lecher of the storm at Newport-Boston and "Poland, Russia and England" taken as the war broke out by Gordon G. Clark. 8mm. world traveler LEO CALOIA, Secy.

Effect of Aeration on Photographic Properties of Developers

By J. I. Crabtree and C. H. Schwingel

Communications No. 672 from the Kodak Research Laboratories

Part II

WHEN hydroquinone is oxidized in a developer by air, the solution becomes more alkaline, but, when it is oxidized by virtue of performing useful photographic work, the solution becomes less alkaline as the hydroquinone is depleted.

It seems reasonable, therefore, to assume that the seasoned developer contained a small quantity of sodium bicarbonate which did not materially change the alkalinity of the solution, but was capable of reacting with its equivalent amount of sodium hydroxide formed during oxidation.

The equivalent of sodium carbonate resulting from the reaction would therefore not increase the alkalinity as much as an equivalent quantity of sodium hydroxide.

During aeration, therefore, the alkalinity of a seasoned developer containing hydroquinone would show only a slight initial increase and all of the sodium bicarbonate formed during aeration had reacted with an equivalent of sodium hydroxide.

After this reaction, the sodium hydroxide formed by further aeration would cause a material increase in the alkalinity of the solution. This would explain why the alkalinity of a seasoned developer does not increase at the same rate as that of an unseasoned developer during aeration.

With the seasoned developer, the change in density observed from tests during the first 30 minutes was much less pronounced than with the unseasoned developer. It is known that small amounts of oxidized developer, when added to a fresh developer, produce anti-fogging and slight sensitizing effects. This may account for the rapid depression in density during the first 30 minutes of treatment using the fresh developer.

A Modified D-19 Developer

Because of the recognized protective action of sodium sulfite in retarding the oxidation of organic developing agents, it was thought that a higher sulfite content might provide a considerable retarding effect during aeration.

Therefore, the D-19 developer containing double the recommended quantity of sodium sulfite was prepared and tested. From the results shown in Figure 1, it will be seen that the increased quantity of sodium sulfite produced the following effects:

Figure 1—Effect of prolonged aeration on an *ortho*-hydro-quinone developer (Formula D-19).

Figure 2—Effect of aeration of a benzene-type of negative developer (Formula D-2).

1. The effective oxidation speed was increased slightly.

2. The change in density values with aeration closely paralleled those with the unmodified exhausted developer.

3. The pH of the solution was maintained at a relatively constant value.

4. No increase in fog was observed.

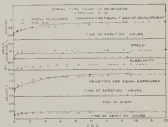
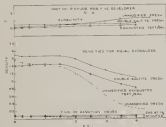
From these tests, therefore, it is apparent that a positive type of developer containing considerably more than the normal quantity of sulfite would be somewhat more satisfactory if the developer is to be agitated by means of air.

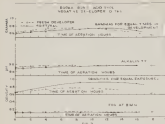
Results Obtained with a Series Type of Negative Developer (D-16)

Data relating to fresh and partially exhausted developers of this type are shown in Figure 2. The curves indicate that changes occurred immediately after subjecting the developer to aeration and that there was no great difference in behavior between fresh and partially exhausted solutions.

Values for gamma and density showed a progressive increase and, after 20 hours of continuous agitation, gamma values were increased approximately 25 percent and the density values for equal exposures increased approximately 40 percent.

This differential gain in density and gamma produced a 10 percent increase in speed during the first hour of aeration.





Fog values increased only slightly, changing from 0.10 to 0.16 for the 20 hour test.

The alkalinity of the solutions increased uniformly from a pH value of 8.6 to 9.2. These observations were identical for fresh and seasoned developers. The increase shown in developer activity may be attributed to the increase in alkalinity which, additionally, retarded at such a rate as to more than offset the reduction in concentration of the active developing agents.

There was no appreciable difference in the shape of the H & D characteristic curves when comparisons were made at constant gamma with fresh developer and with developer which had been subjected to aeration.

Results Obtained with the Borax-Boric Acid Negative Developer (Formula D-34B).

Considering the results obtained with a borax developer, it was thought that the borax-boric acid developer devised by Carlton and Crabtree might suffer less change on aeration because of the tendency of the solution to retain a constant pH value, and data with such a developer are given in Figure 5.

The curves indicate that the borax and boric acid solution slightly, but had no pronounced effect until after several hours of aeration. The changes in gamma and density for fresh and seasoned developers were essentially similar to those obtained with the regular borax developer up to a period of ten hours.

The initial change in pH was less abrupt than with the plain borax developer and, after ten hours, the tendency was to remain constant.

The alkalinity of the developer did not increase at the same rate as in the case of the borax developer without boric acid, due to the fact that the borax-boric acid combination has a decidedly greater buffer action than borax alone for the range of developer alkalinity under consideration.

Also, the relative increase in alkalinity of either of the borax types of developer was much less than in the

Figure 4—Effect of oxidation of a borax-boric and negative developer (Formula D-34).

Figure 5—Effect of oxidation of an alkali-borax containing a desensitizer (Formula D-39).

case of the carbonate developer which is accounted for by the fact that a combination of borax and boric acid or borax alone has a relatively greater buffering effect than sodium carbonate.

Results Obtained with an Alkali-Borax Developer Containing a Desensitizer (Formula D-39).

This developer was of the borax type but contained pinkcrystal green as a desensitizer and no hydroquinone. From Figure 4 it will be seen that this developer behaves somewhat differently than the other types of borax developers.

The pH value of the solution remained constant at a value of 8.9 throughout the tests, which would substantiate the previous deductions that it is the hydroquinone constituent of a developer which tends to give increased alkalinity.

The data show that for a fresh developer, the gamma and density values decreased continuously from the start in contrast to the negative types of borax developers already discussed containing hydroquinone, in which case the density and gamma values increased during the initial stages of aeration.

With the seasoned developer, the general effects observed were similar but more pronounced than with the fresh solution.

Fresh and Seasoned Alkali-Borax Developers Without Pinkcrystal Green.

Because of the marked difference in behavior between developer D-30 and the previous borax developers, it was thought that the desensitizer might have some catalytic effect upon the rate of oxidation of elon. A solution was prepared, therefore, which contained no desensitizer.

The fresh developer gave practically no change in gamma or density, while the seasoned developer produced a



marked falling off in gamma and density values, the results obtained being almost identical with those from a fresh developer containing pinkcrystal green.

From these results it appeared probable that both pinkcrystal green and colloidal silver which is formed during exhaustion of developers with a high sulfite content catalyzed the oxidation of elon.

Results Obtained with Developers of the MQ Series.

It is evident from the preceding experiments that hydroquinone and elon behave very differently with respect to oxidation when compounded in developing solutions. To further check these observed differences, it was thought desirable to test developers having widely differing elon to hydroquinone ratios, the other constituents remaining constant. Several members of the MQ series² of developers were therefore tested.

The results of tests with developers MQ-0, MQ-50, and MQ-100 are shown in Figure 5. The developer MQ-0 contained hydroquinone (15 grams per liter) and no elon, MQ-50 contained equal quantities of elon and hydroquinone (2.5 grams of each per liter), and MQ-100 contained elon (5 grams per liter) and no hydroquinone.

All of the developers contained identical quantities of sodium sulfite (75 grams per liter), sodium carbonate (25 grams per liter), and potassium bromide (15 grams per liter).

With the MQ-100 developer, gamma and density values did not change as the aeration was prolonged, and the alkalinity remained constant. These results confirm previous observations with the borax developer (D-39), and it was concluded that elon in the presence of sulfite in alkaline solution was relatively stable toward oxidation provided no catalysts such as colloidal silver or pinkcrystal green were present.

The data from the tests with MQ-0 also confirmed the previous observations that hydroquinone was very susceptible to oxidation in the presence of alkaline sulfite solutions and reacted in a manner

as to increase the alkalinity of the solution.

The data with MQ-O were similar to those obtained with D-36 as would be expected, since the hydroquinone-elen ratio of D-36 is relatively high.

The results showed that the drop in density and gamma values with aeration was greatest with MQ-O and least with MQ-100. Likewise, the alkalinity increase for MQ-50 was intermediate between that for MQ-O and MQ-100.

Tests with Miscellaneous Developers.

Tests with caustic, borax-caustic, and borax-carbonate types of developers showed that the susceptibility to oxidation of developers containing equivalent elen-hydroquinone ratios, with equal quantities of sodium sulfite, was dependent largely upon the developer alkalinity and not upon the specific alkali employed.

It is true that developers may have equal oxidation susceptibilities, although their rates of oxidation may be different. This is illustrated by the results obtained with a caustic and a carbonate developer containing equal quantities of sodium sulfite and equal hydroquinone-elen ratios. The alkalinity of the solutions was adjusted by varying the quantity of alkali so as to give equal pH values.

On aeration, both solutions commenced to oxidize at about the same time but, as the aeration was continued, the developer containing the caustic oxidized at a greater rate than that containing carbonate.

By measurement it was found that the alkalinity after aeration was greatest for equal degrees of aeration in the case of the caustic developer, and this may be explained by the buffering action of the sodium carbonate which tends to maintain a constant pH value as caustic is added as a result of oxidation of the hydroquinone.

The difference in behavior between two developers of the same formula DK-40 compounded with (a) Kodak and (b) an equivalent quantity of carbonate is shown in Figure 5. Although the

values for the fresh developers were equal, it is seen that the pH of the carbonate solution (7.5 grams per liter) increased at a greater rate than that of the corresponding Kodak developer (25 grams per liter) due, undoubtedly, to the greater buffering action of the Kodak. The gamma values also decreased at a greater rate with the carbonate developer, due to the greater rate of oxidation at the higher pH value.

With the exhausted developers, the change in rate of photographic activity was somewhat greater than with the fresh developers, confirming the data in Figures 1 and 2.

In the above test, the developer was aerated by rotating a small reel in a trough containing the developer at a rate of 30 revolutions per minute. The reel was wrapped with a sheet of Kodaloid so as to create a greater surface for aeration.

From the above data it may be considered that for equal pH values of the original developer, for a *maximum* change in photographic effect with aeration, the various alkalies are to be preferred in the order of their buffering ability, namely (a) borax and Kodak, (b) carbonate, and (c) caustic soda.

Effect of Sodium Sulfite Concentration on the Relative Oxidation Rates of Elen and Hydroquinone.

In order to determine the change in rate of oxidation of elen and hydroquinone in combination with varying concentrations of sodium sulfite, various developers were compounded according to the following formula:

Developing agent—5.0 grams
Sodium sulfite (decahydrate)—Varying concentrations

Figure 4—Effect of aeration at developer containing various proportions of elen and hydroquinone

Figure 5—Showing the difference in behavior between two developers of the same formula, DK-40 compounded with (a) Kodak, and (b) an equivalent quantity of sodium carbonate

Sodium carbonate (decahydrate)—25.0 grams

Potassium borate—1.5 grams

The end point of the aeration test was taken as the time required to render the solution incapable of developing an image density for a given exposure on positive film, when developing for 15 minutes at 65 degrees F. From Figure 7 it is seen that elen was protected by sodium sulfite to a much greater degree than hydroquinone. The results with mixtures of elen and hydroquinone seem to indicate that the rate of oxidation of elen is somewhat accelerated by the oxidation products of hydroquinone, especially at low sulfite concentrations.

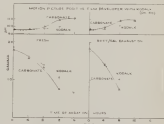
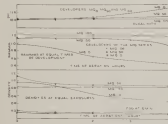
Effect of Temperature on Rate of Developer Oxidation.

Tests with Formula D-16 indicated that a change in temperature from 65 to 95 degrees F. had only a slight effect on the rate of oxidation.

[To be Continued]

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PUTTING SCENE SLATE INTO CAMERA

By WILLIAM STULL, A.S.C.

FOR at least three or four decades the "slating" of scenes has been an integral part of motion picture production. At the last moment before the filming of a scene begins, an assistant cameraman steps into the scene to hold before the lens a slate or numbered chart which is photographed on a few feet of film to identify the scene that follows.

Today, this operation in its traditional form seems to be passing into the discard, for two of the industry's largest studios—Paramount and Twentieth Century-Fox—have independently developed camera accessories with which slating is accomplished semi-automatically as the

camera is brought up to operating speed for the take.

In each case the slate is an attachment fitted to the iris rods of the camera and including a miniature slate, a switchable supplementary lens to bring the slate into focus and a self-actuated light source to illuminate it for the exposure. Both devices are being patented.

In both devices the scene is slated by the assistant cameraman, who as the camera starts moves a convenient lever which swings the slate into position before the lens and automatically turns on its illuminant.

When the camera reaches operating speed, the lever is released, the slate drops out of the way and the scene is photographed in the usual manner.

Saves Time and Money

The advantages of such a device will be obvious. While the actual film footage saved by use of these built-in slaters is regarded by their designers as more or less a secondary consideration, combining the slate footage with that inevitably exposed in bringing the camera up to operating speed can save the less effect really worthwhile economies.

The average feature production will have from 500 to 600 or more scenes and set-ups which will require slating. For a conservative average figure, let us assume that the average feature will require the slating of 500 scenes.

Let us further assume that an average of four "takes" of each scene may be expected, and that an average of 5 feet of film will be used to record each slating by conventional methods. Eliminating the slate footage thus used would therefore result in the saving of 10,000 feet of negative film for that production alone.

Estimating the average major studio's annual output at 50 feature productions per year, a saving of 10,000 feet of negative on each production would result in a total saving of some 500,000 feet of negative per year in that studio.

These figures appear to be quite conservative, for while some productions may require fewer than the 500 slated scenes mentioned, others may require considerably more. In addition, as is well known, certain types of action, or certain players or directors may vastly increase the modest average of four takes per scene cited.

Taking these facts into consideration, it may be safely held that the use of such slaters could well effect the saving of considerably more than the half-million feet of film estimated in the average large studio's annual production.

These savings would naturally be extended to include negative developing costs and, in a considerable lesser measure, since but one or two takes of each scene will usually be printed, the expenses of positive filmstock, printing and processing for dailies rubes, as well.

Convenience on Set

According to the users of these slaters, however, an even more significant advantage of their use is the saving of time and confusion on the set they effect. On even the ordinary low budget short schedule production the overhead worries up at the rate of several thousand dollars an hour, and on the more expensive "super-A" film production costs may reach several hundred dollars per minute.

In either case, the saving of several minutes per scene through eliminating the usual delay for slating can effect



Twentieth Century-Fox slate attachment for camera.

useful accessories during a feature's shooting period.

Closely allied to this, and of even greater importance in the long run is the elimination of the confusion ordinarily caused by the assistant's last-minute intrusion with the slate.

The psychological effect on a player—temperamental or otherwise—preparing for a difficult emotional or dramatic scene, of having a slate unconsciously shown before one's face, can readily be imagined.

Users of these new slaters agree that eliminating this source of distraction can and does result in fewer takes and better performances.

Legibility Better

A further practical advantage is also obvious. This is the greater legibility of these automatically slated scenes. Although conventional slates are used for the purpose of identifying scenes, it cannot at all times be said that they are always easily readable, either on the screen, in projecting the rushes, or in the cutting room, segregating the scenes on records or movies.

All too often the image of the slate on the film is too small, or the slate carelessly held or inadequately illuminated, to be read easily.

Both of the slaters now in use, on the other hand, provide legible, full-screen images of the slate, always uniformly illuminated. Slates so produced are, in effect, identifying subtitles which can be easily read.

As Photographic Supervisor Clark of Twentieth Century-Fox puts it, "It is a pleasure to look at the rushes when they're slated this way. You see a full-screen slate. Then it swings out of the picture and the scene carries on immediately. You don't have to guess what the slate said, and there's nothing to distract your attention from the scene that follows."

Parsonett's Design

The Paramount Studio has two of these slaters, built as experimental models, now in service, and some fifteen additional slaters are being built, to be applied to all the studio's cameras. One of the chief problems involved in the design of this slater has been the requirement of interchangeability between all of the several types of cameras used by this studio's various departments.

These include standard and NC Mitchell on normal production, and Bell & Howell in the two special-process departments. The slater has also been designed to be applicable to the new BNC type Mitchell cameras, as well.

The Paramount Slater is fitted to the camera's eye-rod, and is usually mounted outside of the soundproofing blimp. The unit itself is roughly h-shaped. When raised into operating position, the shorter arm of the "L" is swung into place in front of the lens.

Here a single supplementary lens is placed in front of this supplementary lens is a mirror, mounted at an angle

of approximately 45 degrees below horizontal. Directly below this mirror is a second single supplementary lens, and below that, the slate, which is 8 inches from the camera's lens.

The supplementary optical system is set to bring the slate into sharp focus when the camera-lens is focused at 8 feet. Thus, it has been found, in the average focal setting most frequently used. For other settings, there is sufficient depth of field to give an adequately sharp image of the slate regardless of the focal setting of the camera lens.

The slater has been calculated to work with all lenses of the four commonly used, from a 28mm. to a 75mm.

Illumination is provided by four low-voltage flashlight globes, arranged one at each corner of the slate. These are automatically turned on as the slater is raised into position, and turned off as it is lowered. These lamps are wired in parallel, so that if one burns out unexpectedly, the other three still operate.

Power for illumination is provided by a set of ordinary flashlight batteries contained in a small metal case inside the blimp. Battery power was chosen because of greater convenience in location work, and because diverting current from the power supply of the camera motor when under its starting load would tend to poison the acceleration period unnecessarily.

A rheostat and indicator are provided by which the illumination may be maintained at any desired strength. By slightly overrunning the light globes, using voltage higher than that for which the globes are designed, increased illumina-

tion for exterior scenes is obtained. Since 1000-hour globes are used this does not unduly shorten their burning life.

Twentieth Century-Fox Slater

The slater used at Twentieth Century-Fox is in many ways similar, though the two designs were evolved independently. Since the device was designed for use with the non-blipped Twentieth Century camera some of the complications of a device intended for use with blimps can be eliminated.

A simple metal casing supports the device on the camera's eye-rod. The lower end of this casing terminates in an operating handle, while the slater assembly is carried on the other end.

The device is tubular, and utilizes a simple optical system without a mirror. The supplementary lens is designed to correct the focus of the camera lens, when focused at infinity, to give a sharp image of the slate.

Thus in use, the camera lens is brought to infinity focus, the slater swung up into place, and as this is dropped, the camera lens is reset to the required focus for the scene.

A single, 8-watt globe is used, mounted directly above the slate. This is powered from the camera spot's power supply, through a small, step-down transformer. An automatic switch turns the lights on and off as required.

For normal interior scenes a removable diffuser is interposed between this lamp and the slate, to reduce the illumination to the correct level to produce an exposure density uniform with that of normal interior scenes. For exterior scenes this diffuser is removed.

Slaters Small

In both devices the slate itself is small—approximately the size of a pocket notebook—and the necessary figures and letters to produce the production data—scene and take numbers, etc.—are on the edges of rotatable discs or wheels similar to those in the mileage counter of an automobile speedometer or a "jump" clock.

The photographer and production executives of both studios are enthusiastic over the possibilities of this newest accessory. The Paramount executives maintain a conservative silence, however, when pressed for statements concerning the actual economies possible with the new device in use throughout the studio.

Twentieth Century's Supervisory of Photography Dan B. Clark, A.S.C., however, is authoritative for the statement that he estimates that when the device is in use on all of the studio's cameras it should, through savings in film, laboratory charges, time and confusion, effect economies in excess of \$15,000 a year.

If experience verifies this estimate, these two enterprising studios have indeed brought the industry an accessory which is not only an obvious convenience, but one which can be a potent factor in today's search for technical economies where-with to counter-attack today's new and distressing economic problems.

William Miller, A.S.T., at left, and his crew, use the first in our Paramount's slater, as shown here. Photo by Malcolm Mallick.



ST. PAUL MEN PROUD OF WOMAN WHO WINS FIRST

THE first woman to join the St. Paul Amateur Movie Makers' club turned the tables on a bunch of overbearing male members, and with the glint of satisfaction in his eyes she accepted the L. L. Harmon trophy for the best picture of the year in the first annual contest of the Minnesota club.

The trophy, a dull silver urn mounted on a pedestal, was given to Mrs. D. N. Olson to hold for a year for her picture, "Vacation 1938."

Lord Olson placed second with a moonshiner, "The Rural Road Currier." L. L. Harmon was third with an item, color picture, "Christmas at the Harmon," and John Stess and Kenneth Hinzewood secured honorable mention.

The awards were made at the annual banquet of the club, Tuesday, June 4, but not without protest from other competitors, who charged, in a complaint served to two city police officers, that Harmon had used his influence as the donor of the trophy to have his own film receive at least third place.

The matter was hushed up, however, by E. E. Bauman, club president, who shifted the prizes and gave Harmon a book entitled, "How to make good movies," thereby preserving Harmony among the club members.

Walker Gayman, secretary-treasurer, announced that in spite of the "sore-heads" who submitted to a woman winning this contest, the contest will be held again next year.

Eighteen completely titled films, many with musical accompaniment, were entered in the 1940 contest.

When all is said and done, nevertheless, the male members of the St. Paul



LeRoy Harmon, donor of the first place trophy, presents it to Mrs. D. N. Olson, winner in the St. Paul Amateur Movie Makers' 1940 contest.

Club are feeling plenty tickled over Mrs. Olson's feat in winning first in a big field. They are wondering if there is any other club which can make a similar showing.

The club holds a program meeting once a month, and another meeting is held each month which is reserved for discussion of filmmaking by the members.

fective film, or sproles incorrectly made, from jamming the sprocket. In addition, the new sprockets are made of especially hardened steel, which reduce wear almost to the vanishing point.

Sound Recording Technical Men Sought by Washington

The United States Civil Service Commission has announced an examination to fill sound recording technician positions in the Signal Service at Large, War Department. The salary is \$2,000 a year, less a retirement deduction of 15 percent.

Applicants must be filed with the commission's Washington office not later than July 22 if received from States east of Colorado, and not later than July 26, 1940, if received from Colorado and States westward.

Applicants must have had 5 years of experience with variable-area sound film recording, which must have included experience in actual recording and re-recording, and in design, installation, maintenance, or testing of the equipment used for such recording.

Full information as to the requirements for the examination, and the appropriate application forms, may be obtained from the Secretary of the Board of United States Civil Service Examiners, at any first or second class post office, or from the United States Civil Service Commission, Washington.

Newburgh Amateur Cinema Club Holds Annual Dinner

The Newburgh (N. Y.) News of a recent date tells the story of the annual dinner on the evening before at the Palestine Hotel of the Newburgh Amateur Cinema Club. Fifty-seven persons were present, including guests from as far as Malone. The feature of the evening was the address of Duncan McDonald Little of New York, conductor of the annual international show of amateur motion pictures, on "Motion Picture as a Hobby."

Three films were shown to the diners. They were "Below Zero," photographed by Mr. Little, one of the ten selected for the eleventh Annual International; "Behind the Battle," by William R. Hutchinson, president of the club, and "Parade in October," by Dr. William F. Small, past president.

"Behind the Battle" was recently reviewed in this magazine. President Hutchinson was master of ceremonies. Sound effects for projection were by Frank Seymour. Projectionists were Mr. Hutchinson and Edwin C. Bennett.

Left to right, film approximately in place on new anti-jerk sprocket; jaws clamped open, film seated properly on sprocket teeth, jaws closed, for projection.

Bell & Howell Designs Two Shifts in Projection Plans

From Bell & Howell comes the announcement of two sweeping changes in Filmosound design, developments said to be the most revolutionary advances in projector design in some time. B&H claims to have drawn sprockets and guards of such types that the film can not be threaded incorrectly, and a new take-up mechanism which winds the projected film with constantly correct tension regardless of the reel size or film lead.

As the Filmosound is threaded, the new "Safe-Lock" sprocket guards, which are standard equipment on all models, guide the film to its proper position on the sprocket. The spring-actuated guard is snapped open and immediately closed, and the film is threaded, locked safely in place.

Furthermore, the new guards extend over the outer edge of the film. This construction, it is claimed, prevents de-

struction, it is claimed, prevents de-



Hollywood Hears Stereophonic Reproduction... It Is Good

PANTAGES THEATRE, Hollywood, was crowded the night of June 30 to attend a demonstration by the Electrical Research Products, Inc., in stereophones, or stereophonic recordings. The Bell Telephone Laboratories cooperated with the company and the Academy sponsored the gathering.

The following description from the company will be welcomed by those who want to hear more about the comparatively new departure in sound recording:

"The objective of research and development engineers has been to reach the point where amphiphonic and orchestral music heard over the radio or theatre sound picture systems gives the listener an effect substantially similar to that received by one listening to the original musical composition in an audience.

Reproduce Extremes

"A full symphonic orchestra utilizes air vibrations at nearly all the frequencies the ear can hear—and it uses volumes of sound from about the lowest that can be heard in an auditorium to volumes one million times greater. The frequency range of such an orchestra runs from approximately 40 cycles per second to 14,000; and the volume from about 90 decibels above the threshold of hearing to 110.

"In contrast, existing radio and sound picture systems, including reproducing sets, are usually confined to frequency ranges of 5000 to 8000 cycles (which loses quality of many low and high tones thereby), and volume ranges from 35 to 50 decibels.

"Stereophonic sound recording and reproduction, as developed and perfected at the Bell Telephone Laboratories, provides an increase of both frequency and volume ranges to record and reproduce the lowest and highest tones of a symphonic orchestra.

"In accomplishing marked improve-

ment in sound quality and range, the stereophonic system uses four separate sound tracks or channels, instead of the single one used for radio and sound picture rendition. Music or other sounds are picked up by three microphones spaced across the front of the stage in the recording—and for reproduction these loudspeakers are equally spaced across the stage in corresponding positions to the original stereophones.

"Each loudspeaker (or horn) reproduces the sound which had been picked up by its corresponding microphone. This procedure allows for extremely faithful stereophonic or three-dimensional effect in sound presentation to the listening audience. The fourth channel in the sound track is for volume control of the three others.

"After the recording has been made by the stereophonic method, the orchestra conductor is enabled to enhance the composition during re-recording so as to control the volume of various instrument sections of the orchestra and achieve a faithful reproduction of the effect he desired, which effect could not be obtained in the original rendition of the composition."

Quality Entertainment

The entertainment provided for the packed house was of the highest quality. Three human voices were heard on the platform—at the beginning of the performance—and from that time on until the lights were out no human voice was heard "between pag and me." But there were voices—as light as sylphs, as loud as—well, nothing that lived could approach that voice in volume.

The three voices were those of Walter Wagner, president of the Academy, T. K. Stevenson, president Electrical Research Products, Inc., and Harvey Fletcher, director of physical research, Bell Telephone Laboratories (Recording), Menlo-

Park. Stevenson and Fletcher had made the trip west from New York for the occasion.

In stereophones there is such a thing as "enhancing." That means the voice is lifted out of itself. It is magnified. Four of the ten sequences of the program were unenhanced—they were as they were uttered—they were as they were uttered. They were worthy of all praise.

Six of the ten were enhanced. They were, from the orchestra division, A Night on Bald Mountain (Mussorgsky) and Tales from the Vienna Woods (Strauss); choros, Tabernacle Chorus of Salt Lake City, Hear Me Supplication (Archaevsky) and Come, Come, Ye Saints (Clayton); orchestra (Philadelphians), The Hut on Poole's Legs, The Great Gate of Kiev, Mussorgsky; organ, Tabernacle Chorus, with Harold Bennett, soloist, Mendelssohn; organ, played and enhanced by Alexander Schreier, prelude in D Major, Bach, orchestra, De Stokowski, excerpts from Götterdämmerung, Wagner.

The four unenhanced were: Drama, The Emperor Jones, Scene II, played by Paul Robeson, O'Neill; organ, Frank W. Asper, organist, allegro from Sixth Organ Symphony, Widor; orchestra, De Stokowski, Moonlight, Debussy; drama, scene from Cyrano de Bergerac—Walter Arundt and James Sullivan, through courtesy Walter Sharpden—Act I, The Duel Scene, Rostand.

Undoubtedly the engineers of the Bell Laboratories and those associated with them have demonstrated their ability to increase the volume of recorded sound. The point to which they have enhanced it well may be described as the safety point. If it is enhanced further or permitted to remain at the present point then it should be demonstrated before a selected audience or there may be danger to individuals.

What to Do

Marvelous as was the program, enhanced as well as unenhanced, the proportion of the audience who would be moved to attend a similar concert and face a parallel ordeal even once would be found perhaps reduced.

Stevenson, ERI president, in a statement in these pages suggests it is not known how, where or when we may look for the motion picture industry to take advantage of the improvements inherent in stereophonic recording and reproduction. One answer to that is indicated. And that answer may bring into being a new division of the motion picture industry.

There are a great many churches of reasonable dimensions in this country alone. Many of these churches may be filled several times a season for purposes of oratorios or concerts or combinations of concerts and dramatic entertainments. To their screens may be brought the finest organizations in the land. The entertainment early may succeed in quality that which might be

applied by the legends—by means of the stereophones.

To produce entertainment of stereophonic description may require equipment of a different or perhaps more expensive type, but time and research will overcome that. The cost of recording an instrumental or vocal concert or both forms is negligible in comparison with a dramatic picture.

Of course, it would take some business away from the theaters. That is, it would if the exhibitors permitted the innovation to slip from their grasp. To be sure, it would give their customers a change in program, and save a month or so as they might like it.

To produce entertainment of stereophonic description may require equipment of a different or perhaps more

expensive type, but time and research will overcome that. The cost of recording an instrumental or vocal concert or both forms is negligible in comparison with a dramatic picture.

That show at Pantages the other night was with a blind screen—a lifeless stage. There was no screen, as it was behind the curtain. The audience was interested in the quality of what was heard, and only heard. It could see nothing.

Change that setting. Show the Philadelphia Orchestra in action. Show Paul Robeson at the edge of the Great Forest, his empire trembling around him. Show the Tabernacle Choir in its Cathedral loft. Show all the other features of that great concert and note the difference. When Erps used a black screen it was holding out entertainment.

The Pioneer provides an accurate rotary shutter giving both and instantaneous exposures and a fixed-focus lens. The Chief has similar shutter equipment and is fitted with a lens having a two-zone, helical focusing adjustment with a built-in yellow hair filter which is automatically brought into position for pictures of landscapes and distant subjects.

These cameras are entirely made in the United States and are obtainable at photographic dealers at the following prices:

FD20 Size—Pioneer JN186, \$2.65; Chief JN182, \$1.45

FD16 Size—JN181, \$2.00; JN183, \$3.00

Flash unit (for either size Chief or Pioneer Camera), JN149, \$1

Washington Society

The Washington Society of Amateur Cinematographers held its June meeting in the Mount Pleasant Library, 16th and Belmont streets, N. W.

The guest speaker was Roy Stryker, chief of the picture division of the Farm Security Administration. Mr. Stryker, formerly professor of Economics at Columbia University, is a well known authority on pictorial presentation. He spoke on future pictorial uses and their present application in showing the political, economic, industrial, agricultural and social changes taking place in the world to-day.

AGFA ISSUES CAMERAS IN LOW-PRICED FIELD

REPRESENTING an entirely new conception of modern camera design, two new Agfa models, the Chief and Pioneer, have just been announced by Agfa Anso in and are now being supplied in two popular sizes. These new Agfa cameras mark one of the most radical developments made in the design and construction of low-price cameras in many years.

The unusual treatment employed in the work of Henry Dreyfuss, one of America's foremost industrial designers, who collaborated with Agfa Anso in the planning of the cameras. The introduction sets a new standard for unusual compactness, style and picture-taking versatility in the low-price field, for both incorporate features that have previously been seen only on cameras of much higher price.

Both embody the same type of rugged, steel-frame construction which, with their lens turret design, has enabled the cameras to be built with remarkable compactness—an advantage that makes them more comfortable to hold and use, more convenient to carry than larger models. In spite of their compactness, both cameras take eight full-size pictures—2½ by 3½ inches in the FD20 model; 2½ by 4½ inches in the FD16 model.

One notable mechanical feature is a built-in, synchronizing mechanism that makes the cameras immediately usable at any time for unsynchronized flash lamp exposures. Lamps are used with a quickly attachable flash unit which is available as an inexpensive accessory. The synchronizer does not interfere in any way with use of the camera for daylight exposures and requires no delicate adjustments for certain exposures.

Among other interesting features are a built-in shutter release button mounted on the top part of the camera body, and an optical, eye-level finder which contributes to more convenient camera operation. A removable, all-metal case for

easy film loading hinged back, handy carrying strap and pebble-grained covering of durable waterproof material are additional points of interest in construction.

Excellent picture-taking ability is assured by the high-quality lens and shutter equipment used on these cameras.

Statement by T. K. Stevenson,

President of Electrical Research Products, Inc.

WE do not know how, where, nor when we may look for the motion picture industry to take advantage of the improvements inherent in stereophonic recording and reproduction. Talking motion pictures were perfected as a by-product of telephone research by the Bell Telephone Laboratories in 1925.

Since that time out of these same laboratories, have come subsequent developments which, as rapidly as they could be applied to the art, from time to time have materially improved the technique of screen entertainment in that way both the range and the quality of sound have been substantially increased.

Now, as a result of continued research by this same group of engineers, we can record and reproduce sound to cover the entire range which the human ear can hear, and we can reproduce it stereophonically, and raise it to any desired volume. It is for the motion picture industry to determine how rapidly they are justified in applying these new techniques commercially to the picture business.

This becomes a practical problem in entertainment—of appraising the public's taste. We have demonstrated that it is perfectly possible to record and reproduce sound with a fidelity and with possibilities of enhancement hitherto unobtainable, but it remains with the motion picture industry to determine how dialogue and music recorded with such fidelity can be made commercially successful.

I believe these changes will be gradual, both in studios and theaters, in their impact upon an industry which is always alive to the possibility of improvement, they will not cause any sudden revolution. In the art as the advent of sound fourteen years ago, but these developments are the most significant development in sound in the last decade and undoubtedly point the way to continued progress in the recording and reproducing of sound either in connection with motion pictures, or possibly without pictures, as a separate medium for making the best music available to audiences throughout the country.

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Here's a Big One

(Continued from Page 26)

part with great respect and unusual earnestness. The biographical aspect of the portrayal is made all the greater and of more importance by reason of the research which revealed to the script writers the intimate story of his life in the writings which were incorporated into his sayings.

The picture is worthy because of the attention it brings to one of its young players, Jimmy Lydon, who earned with remarkable conviction the title part Jesus in just a few, the man of the

judgment—overburdened with looks as the books go, but certainly a rugged straight-forward lad, who has the manner of speaking only the truth.

Fredrick Bartholomew is prominent in the cast. Josephine Hutchinson plays a retiring but most charming Mrs. Arnold. Billy Halop is the chief heavy, or bully, and there are many of them. Polly Moran returns to the screen to say a joyous "Howdy" to long-time friends.

Nicholas Musumeci, A.S.C., directed the photography, while Vernon L. Walker, A.S.C., photographed the special effects. Their work hardly can be entitled

to greater praise, for the spectator was unconscious of the camera work so well did it fit the indicated requirements.

Death Valley

No. 76 of the "Gang Pictorial" series of Universal is an interesting short. It is from the camera of Charles W. Herbert, A.S.C., and shows the changes which have been wrought in the desert country in and around Death Valley during recent years. There are scenes of the most primitive and desolate yet fascinating landscape, of a hotel and a museum created in spite of the same barren and supplied with abundant water where in former years men died of thirst in that neighborhood. The picture demonstrates to the amateur the success at which the many scenes right under his hand may be captured not only for his own and his family's entertainment, but for his friends and fellow-club members as well.

Safari

Paramount's "Safari," with Desires Fairbanks and Madeleine Carroll, is an interesting picture. You may include another couple persons in the cast and have pretty nearly the whole show. In all truth a short cast, other things being equal, enhances the interest. Lynn Overman as the Scotch trader with a thick brogue talks big as a part of the show, and Telle Carmichael as the Baron was sufficiently unpleasant and obnoxious to answer all purposes.

Edward H. Griffith directed the script, written by Delmer Daves, based on a story by Paul Hervey Fox. Ted Tetzlaff, A.S.C., was director of photography. Process photography was by Pasco Gilmore, A.S.C.

One of the factors contributing to the appeal of the story is its simplicity.

If I Had My Way

Universal has made a handinger in "If I Had My Way." A man and a child have the leads, and they really are the leads. Bing Crosby and Gloria Jean come out in front at the drop of the hat, and there they remain until the curtain falls. There are a host of tropes traveling along with them, and then all add to the entertainment—and the drama—art on foot by Bing and Gloria.

Prominently among the two leads are Charles W. Wanger, El Brendel, Allyn Joslyn, Claire Dodd, Maroon Olsen, Nana Bryant. There was an 1894 sequence, or perhaps it should have been a 1900 sequence, which was most effectively interpreted. Eddie Leonard in "Ida," the song for which he wrote music and lyrics, came back across the years with no trace of the sixty-four that went into it. Marlene Dietrich and Tricie Ferguson also appear in old-time skills.

It is not difficult to write an extravagance in writing of the entertainment and again we will say of the drama that rides in the work so markedly of the two leads, the man and the child. That of

the man has been gaining and growing for twenty-one pictures; that of the girl for only two or three, but in those she has traveled far. She is naturalness itself. My personal friend Vernon Steele says as a singer she definitely has arrived.

George Robison, A.S.C., was director of photography and shared equally in the great credit that went to the makers of the picture. In fact, it may be said his work even stood out, in the minor as well as the major details. Jack Ottens' sets also were noteworthy.

Private Affairs

In a picture directed by Albert Rogell Universal brings to the screen a laugh creator. Mixed up in the fun-along are a half dozen players—Roland Young, Hugh Herbert, Nancy Kelly, Morikazu Loew, Robert Cummings and Jonathan Hale.

Young is a Boston Ballerina dancer, stood twenty years before working in New York as a subordinate clerk in a broker's office. His daughter, living with her grandfather, comes to grips with the old man as to her choice of a husband. She decides to appeal to her father for help in her difficulty—and gets it.

Milton Kraemer, A.S.C., directs the photography. It is a gay, lighthearted picture, one in which the drab and the morbid have been omitted.

The Ghost Breakers

Turned again even more successfully than in their former hit, "The Cat and the Canary," Bob Hope and Paulette Goddard score solidly in Paramount's "The Ghost Breakers," which was produced by Arthur Hornblow, Jr. With laughs and some chills aplenty, the picture is top entertainment. Director George Marshall was at his best in megaphoning this enjoyable comedy-mystery. He will get more than ample response to all the wisecracks and thrilling predicaments.

The screen play by Walker DeLeon is based on an earlier stage play by Paul Dickey and Charles W. Goddard. A reputedly haunted castle off the coast of Cuba is inherited by Paulette Goddard, who goes there accompanied by Bob Hope, a radio commentator, and his colored valet.

After failing devious schemes to prevent their taking possession of the castle, they finally take over. The scoring begins in earnest then. It is all great fun, and although many happenings leave one rather up in the air and are never fully explained, everyone enjoys it too much to bother about trifles.

Bob Hope is again better than good. He handles his lines with a fluency and ease that leads one to believe they are almost ad libbed. Paulette Goddard as the barrow is excellent and most alluring. As Bob Hope's colored valet, Willie Best is a riot in smaller but effective parts were Paul Lukas as a scientist, Noble Johnson as the coach, Richard Carlson and Anthony Quinn.

The photography by Charles Lang, A.S.C., was excellent and added much to the picture with the superb lighting and contrasts. The process photography was done by Percival Edwards, A.S.C. Adding, too, and helping to carry out the theme and feeling of literature was the fine musical score by Ernst Toch.

M. D.

The Refugee

Republic's "The Refugee" is a worthy picture. It is an original screenplay by E. Hugh Herbert, Joseph Mank, and Samuel Grims. Its theme touches on a distressing phase of life in two nations separated by an ocean. In one it is the

forced removal presumably for reasons of race, an equally forced removal in the other but by reason of climate rather than governmental, from the Dustbowl to healthy Oregon.

Charles Coburn finely plays a most appealing part. It is that of Dr. Braun, father of Lena, played by Sigrid Garne. As a famous physician, in his former country, he is sent to the Dustbowl, to a small community, guaranteed his living expenses. John Wayne plays the leader of the community, who falls in love with Lena.

The dust continues to blow, the land is desolated of soil, and the community decides to remove 3500 miles to Oregon. In this sequence the story may be rest-

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moment of "Grapes of Wrath," but any suggestion of the vulgarity of the book is absent. The people talk like normal human beings and the poorness of the book story if any is quickly forgotten. There are complexities in the course of the love story, but ultimately they are straightened out.

John Allen, A.S.C., directs the photography. It is well done. His photography is far from routine, ordinary stuff. Rather it is in many instances of blowing dust, as thick as heavy fog, so thick even dust is imposed on the care of photography and sound instruments.

• Brother Orchid

Edmund G. Robinson adds another characterization to the list of those in which he has displayed infinite variety. In Warner's "Brother Orchid" there is a gangster picture—and running alongside of it there is its exact opposite. It is a story of a retreat, of a home for men who have broken with the world. It is to that home that Brother Orchid turns when he has a narrow escape from being "pulled out" by those with whom he formerly came his lot.

To the long list of tough eggs who are given an opportunity to exertion in villainy there are several who register

on the other side of the shield. There is Donald Crisp, for instance, as the brother superior who leads the many new in the retreat. It is a splendid portrayal. Ralph Bellamy plays the part of a wealthy rancher, breezy, wholesome.

Ann Southern is pretty nearly the only woman in the cast, charming as the basic interest, and thriving financially when far away from her boy friend the Orchid. Humphrey Bogart is the convincing head of the bad boys, of whom there is a raft.

Tony Gaudio, A.S.C., is director of photography. Byron Haskin, A.S.C., and Willard Van Enger, A.S.C., are in charge of special photographic effects. The combination is perfect.

• Cross Country Romance

Gene Raymond and Wendy Barrie team in an amusing picture for RKO under the title of "Cross Country Romance." It is a story of an intended bride walking out of her home and her wedding in New York and parking herself in a trailer of a standing automobile. The owner of the machine shortly afterward starts for San Francisco over the road. As the intended bride belongs to wealthy parents who make some noise over her departure the ride is plenty noisy.

Among other players are Hedda Hop-

per, who is the mother, Billy Gilbert, George P. Hunley, Eileen Church, Cliff Clark, Edgar Dearing and Frank Kelly.

J. Ray Monk, A.S.C., is director of photography and Vernon L. Walker, A.S.C., supervises special effects.

• The Captains Is a Lady

M-G-M reproduces Basil Crothers' play of "Old Lady 31" with Charles Coburn and Beulah Bondi out in front. It is an interesting picture, with laughs and chuckles and a few chokes. It is a typical small town, or suburban, community where simple words are strongly supplied.

Some of the other players who contribute to the entertainment, is the melodrama and to making the happenings of the town are Helen Redeker, Billie Burke, Helen Westley, Maryann Main, Virginia Grey, and Dan Dailly.

Les Swift, A.S.C., directed the photography. Among the outstanding sequences photographically was the storm at sea, in which an old-fashioned sailboat might have felt quite at home in all the blow.

• The Mortal Storm

One woman who very well knows her pictures remarked of M-G-M's "The Mortal Storm" twenty-four hours after she had witnessed its press review "That is a noble picture." She spoke truly. M-G-M has done a splendid job. It has spared neither time nor expense, nor thought.

The story begins just before the rise in power of Hitler in Germany—of the happiness that reigned in one German family. It was the family of a German professor, a large family, of sons and a daughter. On the anniversary of his sister's birth the professor is honored at his class and by his faculty, highly honored. The birthday celebration at his home is interrupted by the news of the election of Hitler to the Chancellorship and the kidnapping of the young men of the family to an inevitable meeting of the class.

From that moment turned starts. The professor, Frank Morgan, who had been so highly honored in his class—and to his step-sons—meets his classroom door locked against him because of his Jewish faith. He is sent to a concentration camp and death. His daughter, Margaret Sullivan, endeavoring to escape over the mountains from Germany, is killed by a patrol as she reaches the border with her lover, James Stewart.

The story begins as lightly, as gayly, as one could wish but once the tide turns it flows swiftly, relentlessly, to its deeply dramatic end.

The cast is hand-picked. Among the many are Irene Rich, Robert Young, Robert Stack, Mervyn Gumpel, Berta Givens, William T. Orr, Greenville Bates.

William Dussela, A.S.C., directed the photography. It was fairly good.

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ACADEMY NAMES FIVE STANDING COMMITTEES

DUE to the success of the past efforts of the Research Council of the Academy of Motion Picture Arts and Sciences, the Council is appointing new Basic Committees in the fields of photography, sound, optics, laboratory and cine technical development. These new committees will amplify the past benefits resulting from the Council's activities and will return the utmost value to the industry from these efforts.

The Academy Research Council is concerned with projects involving investigations beyond the facilities of any individual studio.

The Academy Research Council is responsible for all matters of standardization on behalf of the motion picture studios, cooperating with the various equipment manufacturers and supply companies and coordinating its activities with the standardization activities of the Society of Motion Picture Engineers and the Sectional Committee on Motion Pictures of the American Standards Association.

The newly appointed Basic Committees will direct the cooperative conduct of all projects in their respective fields. Each of the committees consists in general of a representative from each of the studios sponsoring the Council, thus giving each producing company the benefit of the efforts of the best technical personnel in the industry.

The responsibility for the policies and the general direction of the whole co-operative program is in the hands of the Research Council, the membership of which also consists of one representative from each of the sponsoring companies.

All Basic Committees will immediately survey their entire field and designate such organizations which the Council, in consultation with the committee chairman, may deem advisable. Many problems brought to the Council's attention since the original announcement of the expanded activities will also be transmitted to the proper Basic Committee.

In practice the following procedure will be followed: A new project or an existing problem may be brought to the attention of the Research Council by anyone connected with the motion picture industry. The problem will then be given consideration by the Council, to decide in which one, if any, of the Basic Committees it will be referred.

The Basic Committee will then lay out a program for investigation and either handle the problem itself, turn it over to one of its existing sub-committees, or set up a sub-committee specifically for consideration of this problem.

Darryl F. Zanuck, chairman of the Research Council of the Academy of Motion Picture Arts and Sciences, announces appointment of the membership.

of the Basic Committees as follows:

Basic Chromatographic Conferences—John Arnold, chairman, Metro-Goldwyn-Mayer; Dan Clark, Twentieth Century-Fox; Robert De Grosse, RKO-Radio; Merritt Gestad, Walter Wanger; C. Ray Rister, Paramount; Ray Seawright, Hal Roach; William Thomas, Warner Brothers; Joseph Valentine, Universal; Joseph Walker, Columbia.

Blair Case Technical Committee—
Grover Laube, chairman, Harry Cunningham,
Frank C. Gilbert, Emil Oster, Al
Tanderson, A. G. Wine

Basic Laboratory Committee—J. M. Nickless, chairman, Fred Gage, Michael Leising, George Seal, Sidney Selow, Roy Wilkman.

Basic Optical Committee—Barton F. Miller, chairman; Fred Allen, John Fuller, Grover Laube, John Lysdany, Wilbur Silvernook, W. S. Shachter, Jr.

Basic Sound Committee—Loren Ryder, chairman, Lawrence Archolz, C. W. Fossner, Wesley C. Miller, William Mueller, Chas. Peetman, Elmer Hagase Gordon Sawyer S. J. Tolson.

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General direction of the entire program will be in the hands of the Research Council, membership of which consists of one representative from each studio sponsoring the Council, in addition to Chairman Zaneck, as follows: John Alberg, BKO Radio; Bernard S. Brown, Universal, Famous Elvaco, Paramount; E. B. Harnes, Twentieth Century-Fox; Nathan Levinson, Warner Brothers; John Leachner, Columbia; Thomas Nealon, Samuel Goldwyn; Elmer Hargens, Hal Roach; Douglas Shearer, Metro-Goldwyn-Mayer; and Gordon S. Mitchell, RKO.

10-Hour Lamp Principle
to 8mm.

Of special interest to owners of the Fibero B Projector is the 400 watt, 10-hour lamp just announced by Bell & Howell for their beam equipment. This new lamp produces 30 percent more light, by actual test, than the standard 400 watt, 25-hour lamp, and 28 percent greater illumination than the regular 800 watt lamp. B & H claims the new lamp generates no more heat than the standard 400-watt unit.

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Bell & Howell Attachment Designed for Any Camera

One of the interesting features of the new *Filmo Fader*, just announced by Bell & Howell is an adjustable arrow indi-

cator, visible in the camera viewfinder, which shows when fades and wipes are completed. Thus these professional effects for "dressing up" home movies are possible with the hand held camera as well as with the camera on a tripod.

The new *fader*, entirely automatic, fits all makes of 8 and 16 mm cameras, and will make professional fade-ins, fade-outs, wipe-ins, wipe-outs, and, when the camera is equipped to rewind the film, the transitional lap-dissolves. Furthermore, the *fader* can be mounted at any angle, so that wipes may be made to appear or disappear from any direction.

The new accessory is a true *fader* in that fades are made with a rotating disc which is graduated from opaque black to a clear sector, and back again to opaqueness.

Technical Facts Arranged for Movie Projectionists

The principles of motion picture sound and sound equipment are explained in detail in simplified language in a 66-page handbook for projectionists prepared by RCA Photophone, according to E. C. Cahill, photophone division manager. The handbook is being distributed by RCA's national service organization.

Entitled "Photophone Systems and Technical Data for Projectionists," the book is profusely illustrated with photographs of equipment, as well as by diagrams, charts and graphs.

New *Filmo Fader*, with *fade-out* attached, mounted on *Synthetic 5mm*. An *attached* *fade-in* has just been completed, with *fade-out* *slide*.

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